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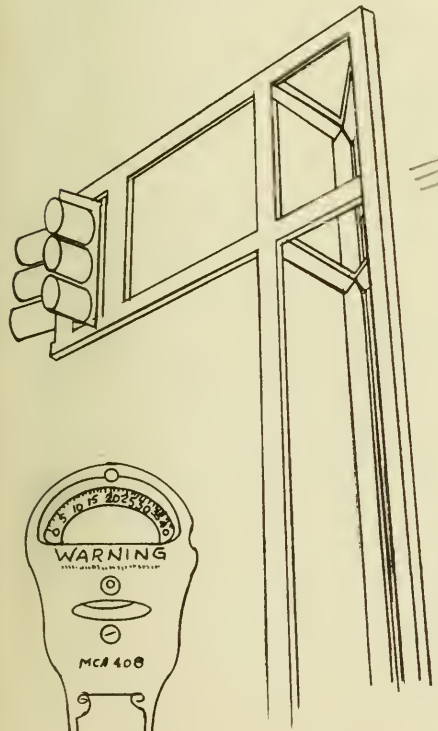
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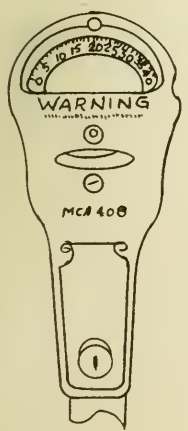
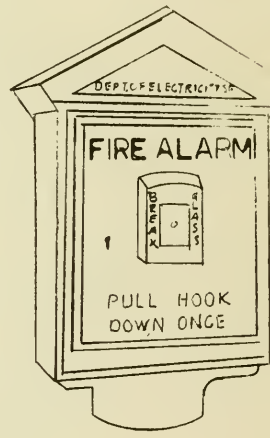
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DEPARTMENT OF ELECTRICITY



ANNUAL
REPORT
ENDING
JUNE 30,
1971



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September 15, 1971

Mr. Thomas J. Mellon
Chief Administrative Officer
City and County of San Francisco
289 City Hall
San Francisco, California 94102

Dear Mr. Mellon:

In accordance with the provisions of Section 20 of the Charter of the City and County of San Francisco, I am pleased to submit the annual report of the Department of Electricity for the fiscal year 1970-1971.

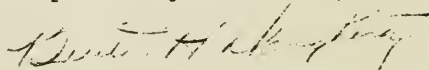
The Department fulfills its responsibilities and performs its functions through organization into five divisions: Administrative (including Accounting), Electrical, Mechanical, Radio and Fire Alarm Operation.

I am sincerely appreciative of the dedication of the heads of each of our divisions and of each of our employees and of their excellent performance during this past year.

We shall continue to strive for excellence in providing the best service in the most effective manner possible for the various City Departments and for the citizens of San Francisco.

I am very grateful for the understanding, cooperation, and help extended by you and your staff during this past year.

Respectfully submitted,



BURTON H. DOUGHERTY
General Manager
Department of Electricity

ANNUAL REPORT
DEPARTMENT OF ELECTRICITY
CITY AND COUNTY OF SAN FRANCISCO
FISCAL YEAR 1970-1971

HON. JOSEPH L. ALIOTO
MAYOR

THOMAS J. MELLON
CHIEF ADMINISTRATIVE OFFICER

BURTON H. DOUGHERTY
GENERAL MANAGER

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1976-77

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Cover by: Donald Pilmer
Department of Electricity

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RADIO ENGINEERING SECTION
SUMMARY OF ACTIVITIES 1970-71

Fiscal year 1970-71 was a year of reorganization for the Radio Division. In March of 1971, in order to meet the ever increasing demands placed upon the Radio Engineering Section by the continuing needs of City Departments for the expansion of existing communications systems and the increasing requirements for new communications systems, it was found necessary to increase the Section's staff. This has been accomplished by the reassignment of three technical personnel from the Department's Radio Shop Section to the Radio Engineering Section. An existing, previously unoccupied, office space in the Department is now being utilized as a Radio Engineering Annex for the personnel. A more useful working arrangement has also been provided for the Radio Division's Clerk-Stenographer.

The function of the Radio Engineering Section is project planning, project scheduling, budget development, application of communication sciences, liaison activities internal and external to the Department, provide Disaster Communications, compliances with rules, regulations and licensing requirements of the Federal Communications Commission, as well as continuing to provide the system design, contract preparation and coordination for City Departments.

Once the need for a communication system is established, the Radio Engineering Section assists the requesting City Department in the preparation of a basic program and the acquisition of the system. The program consists of general information relative to the activities and services to be performed by the system and related data. The Radio Engineering Section then prepares sketches, specifications, and estimates of costs; and when funds are available, prepares, or supervises the preparation of the schematic, preliminary and final drawings, specifications, and estimates. After approval of the final documents, bids are requested by advertisement in the official newspaper, opened in public, reviewed and analyzed, and recommendations are prepared for award of the contract. After award and certification of the contract, Radio Engineering personnel inspect the system installation as it proceeds, certify progress payments, and upon completion of the project, verify that it has been properly installed and operates in conformance with the plans and the specifications and initiate the final payment to the Contractor.

RADIO ENGINEERING SECTION

The work processed during the fiscal year was as follows:

POLICE DEPARTMENT

Police Instantaneous Communications System (PIC)

After a period of analysis, design and field strength surveys, Phase I (Delivery, Installation, Check Out and Acceptance of two District Police Stations in a segment of the totally programmed system) has been completed. Project work continues on Phase II.

Digital Communications Command and Control Project

Last year the Sylvania Digicon experiment was temporarily interfaced with the San Francisco Police Department Communications System, and the equipment was removed following the experiment. This year, another grant was made available for continuing the experiment with an advanced model Digicon system. The Sylvania Company will also provide a new radio control console to handle expanding needs, and this will be the Police Department's newly updated communications console. Planning sessions with members of the Police Department and Sylvania were held to provide Sylvania with communications system information.

Sylvania's preliminary draft of the system to be provided was reviewed. This draft was not complete enough to determine the proposed system's electronic functions.

Work on the project continues. Sylvania will provide a more defined system draft for analysis and acceptance by the City.

Helicopters

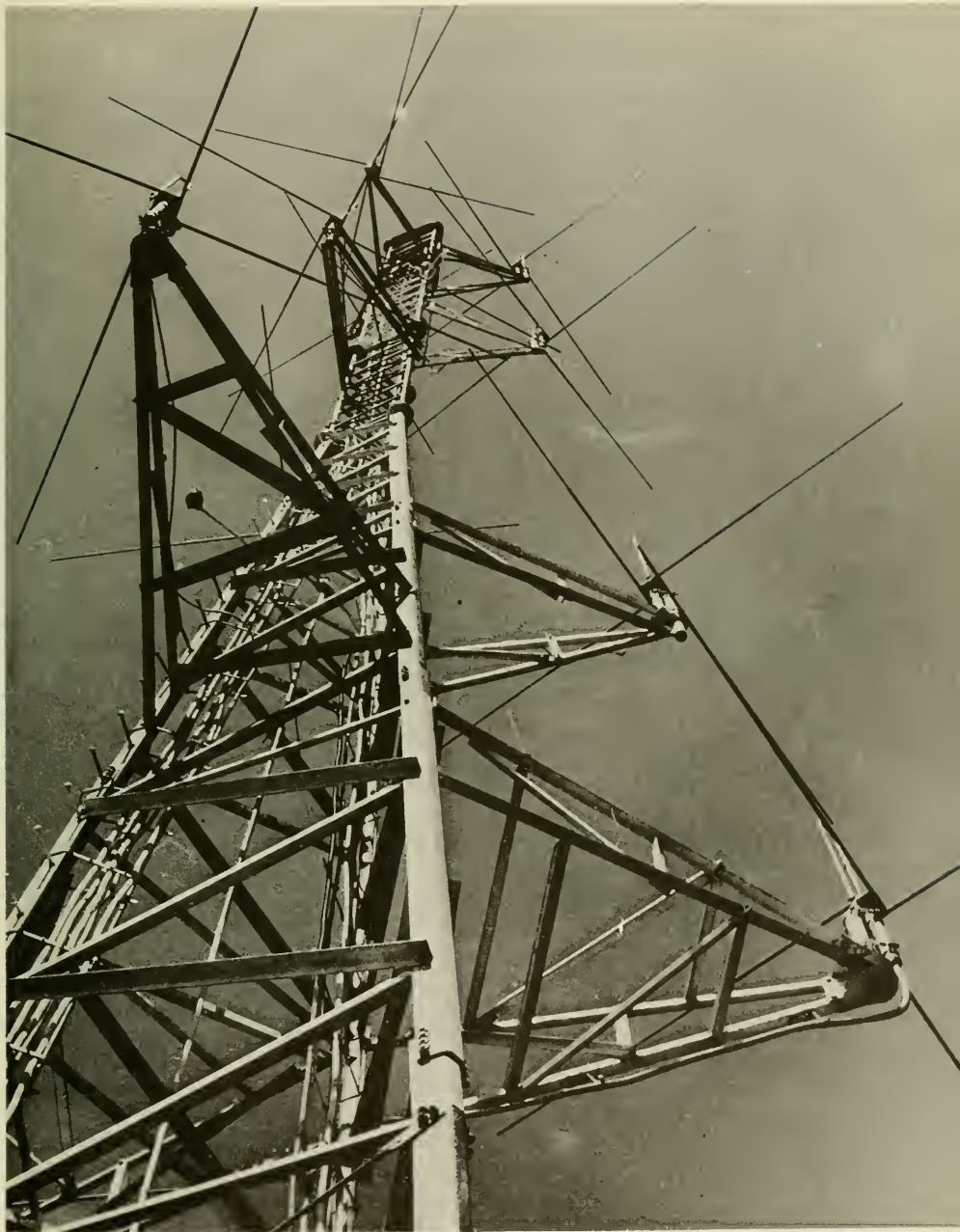
The Radio Division met with personnel from aircraft electronics companies to obtain information for an integrated helicopter communications system.

A cost estimate was provided and submitted to the Planning and Research Section of the San Francisco Police Department. The preparation of written specifications for the installation of an integrated Police communications system for each of the two helicopters is forthcoming.

Recording System

The Division prepared specifications for the procurement and installation of a new recording system for Police





Main Antenna Array - Central Radio Station

RADIO ENGINEERING SECTION

Recording System, Con't.

communications. Plans, layout drawings, and wiring tables were drawn up for our permanent files.

Central Radio Station - Channel 5

We supervised and inspected the installation and operation of a new type of antenna. A field strength survey was conducted throughout the City. The results were favorable. This made possible considerable savings in the purchase of new radio station equipment for Channel 5 (an existing Police channel).

Central Radio Station - Receiver Decoder System

Simplified drawings and information were prepared for the system.

Command Operations Center (TV Room)

Plans and drawings were provided for the modification of the communications monitoring system.

Communication Console

Engineering was completed for the interface of existing microphone/carpiece units for use with either radio communications or telephone.

Speed Radar

A cost estimate was provided to the Traffic Division for a speed radar system.

Narcotics Bureau

A cost estimate was provided for a new radio communication system and support equipment.

Equipment Cost Estimates

Cost estimates were made throughout the year for fixed, portable and mobile radio equipment as well as proposed system changes and modifications.

Supervising Captain - Communications System Control

Plans, drawings, and systems wiring tables, along with instructions, were provided for extending the control of communications from the Supervising Captain's Office.

RADIO ENGINEERING SECTION

Federal Communications Commission

FCC Licenses were modified to include all the new PIC System radio stations.

FIRE DEPARTMENT

An estimate was prepared for new mobile communications equipment, and several Federal Communications Commission license renewals were applied for.

HEALTH DEPARTMENT

Laguna Honda - Security Police

Specifications were prepared for the procurement and installation of a radio system and a Federal Communications Commission license was obtained for the radio station.

San Francisco General Hospital - Telephone Room

We began the first phase of updating and integrating the existing security Police system for use in the SERS Digital System.

Specifications and drawings were prepared for the procurement and installation of a digital encoder/decoder console. The second phase consists of providing a SERS Radio to operate in conjunction with the digital encoder/decoder console.

Laguna Honda - SERS System

The Radio Division provided an estimate and applied for an FCC Radio Station License, and prepared plans and specifications for the procurement and installation of the new SERS Radio System.

San Francisco Emergency Medical Care Committee Meetings

Personnel of the Radio Engineering Section attended meetings throughout the fiscal year and submitted various reports as required.

We prepared an estimate for a Health Department Radio Communications System; conducted frequency interference tests with adjacent radio channel users so that an application for an FCC Radio Station License will be authorized. (This system concept has changed to the "SERTS" system concept).

RADIO ENGINEERING SECTION

Special Emergency Radio/Telemetry System - "SERTS"

A new communications system concept for the Health Department has developed, due to changing public needs and the newly proposed changes to the Federal Communications Commission's rules and regulations for this type of radio service.

This Department and the Health Department have scheduled technical workshop meetings for a tentative system concept plan, and our Department is also planning meetings with equipment suppliers.

California Hospital Association Meeting

The topic of this meeting was "Communications Problems During the Los Angeles Earthquake of February, 1971".

DISASTER CORPS

Disaster Communications Van

We prepared specifications for the procurement and installation of a new Citizens Band Transceiver. This unit is presently operative.

Meetings

Division personnel attended emergency planning meetings throughout the year regarding communications systems, hot line telephones, and an emergency broadcast system.

Radio Amateur Civil Emergency Services - "RACES"

The "RACES" program was studied and is being upgraded.

Central Radio Station

Our Division supervised the installation of the Disaster Broadcast Station Alert System.

MUNICIPAL RAILWAY

A frequency interference test was conducted on a proposed frequency of 44.54 MHz from the Forest Hill Radio Station site. A report of the test information was drafted and forwarded to the Municipal Railway.

RADIO ENGINEERING SECTION

Municipal Railway, Con't.

A study of the current Municipal Railway Federal Communications Commission's Radio Stations' Licensing was made and a report was forwarded to the Municipal Railway.

CORONER'S OFFICE

A quote was prepared for a radio system that would place the Coroner's Office on the Local Government Radio System.

RECREATION AND PARK DEPARTMENT

Our Division prepared an estimate for a new radio system.

ZOOLOGICAL GARDENS

We performed an area field strength survey with high band portable radio equipment and provided a system estimate with concept drawing for a portable radio system.

HOUSING POLICE

An estimate was prepared for providing UHF PIC System portable radio equipment and accessories.

SHERIFF'S DEPARTMENT

The Division prepared an estimate for expansion of the Sheriff's Local Government Radio System.

MISCELLANEOUS

Candlestick Park

Information was obtained regarding the plans for a new security Police radio system.

Building Contractors

We studied the possibilities of including a built-in antenna system for new high-rise building construction to aid Fire Department portable radio communication.

RADIO ENGINEERING SECTION

DEPARTMENT OF ELECTRICITY

System designs, estimates, specifications and requisitions were prepared for various Departments.

The analysis of many new products and systems was conducted.

Technical reports were studied and correspondence was handled.

Various meetings were attended and field trips taken as required.

Complaints by the public of television interference were investigated.

An inspection of the FCC-type Acceptance Numbers for all City-owned radio communications equipment was conducted and a new list was checked at the Regional Federal Communications Office.

Annual Amateur Radio Field Day Event

Our Division provided the City-owned Disaster-Communications Van and an emergency generator and assisted in operating them for the annual Amateur Radio Field Day.

Associated Public-Safety Communications Officers - APCO

San Francisco was represented at Frequency Advisory Committee Meetings (one each month) at various Northern California meeting places.

A brief description: APCO is an association of administrators, engineers, dispatchers and technicians who are responsible for the design, operation and maintenance of telecommunications systems serving public-safety agencies at the Federal, State and Local levels. APCO is an officially recognized advisory group to the Federal Communications Commission for matters including frequency allocation and coordination, as well as initiation of technical and operational advances.

During the past year, San Francisco has hosted the 37th Annual Conference for APCO at the San Francisco Hilton Hotel. The conference period was August 9-12, 1971.

RADIO ENGINEERING SECTION

Associated Public-Safety Communications Officers - AFCCO

Members of the Engineering Section met with the Conference Committee at least once a month for over a year promoting, planning, and working to assure a successful conference.

The General Manager of the Department of Electricity, as a member of the Conference Committee, was the Chairman responsible for Conference Registrations.

With the proposed new FCC rule making, which will be studied by AFCCO, the year ahead promises to be interesting.

RADIO MAINTENANCE SECTION
SUMMARY OF WORK PERFORMED

Responsibility: Install and maintain communication systems and associated facilities for various departments of the City and County of San Francisco.

The following services were performed for the Police, Fire, Public Works, Electricity, Health, Coroner, Municipal Railway, and Water Departments, for the Disaster Corp, Mayor's Office and Board of Supervisors and for the Special Police Group and Housing Police Section:

Maintenance and repair services at the
Radio Shop - 901 Rankin Street.

Maintenance and repair services at
various outlying locations.

Federal Communications Commission
frequency and deviation measurements.

Installation of equipment in new or
replacement vehicles.

Removal of equipment from obsolete
vehicles.

Respond to emergency service needs
during off-duty hours.

Installation and maintenance of
Disaster Corps facilities.

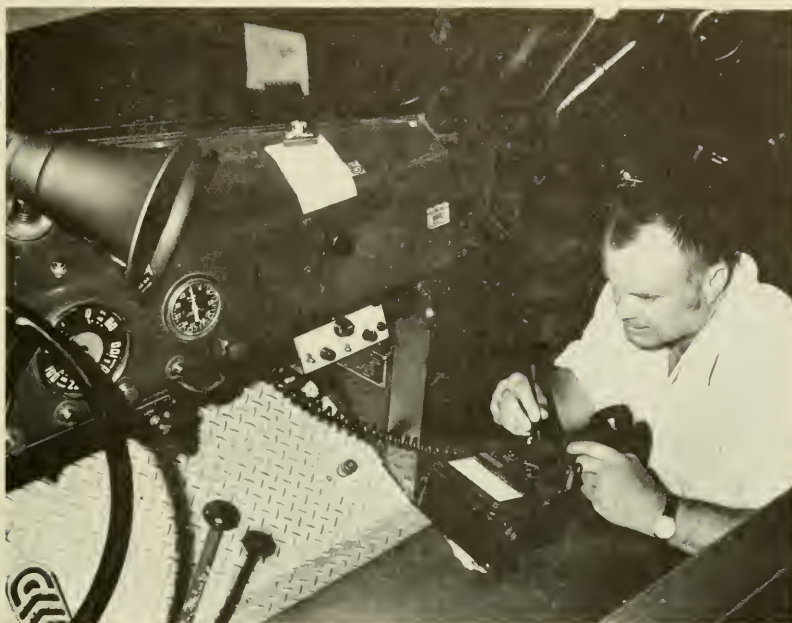
RADIO SHOP
EMPLOYEE COMPLEMENT

<u>NUMBER OF EMPLOYEES</u>	<u>TITLE</u>	<u>CLASS</u>
1	Senior Radio Technician	7368
6	Radio Technicians	7367

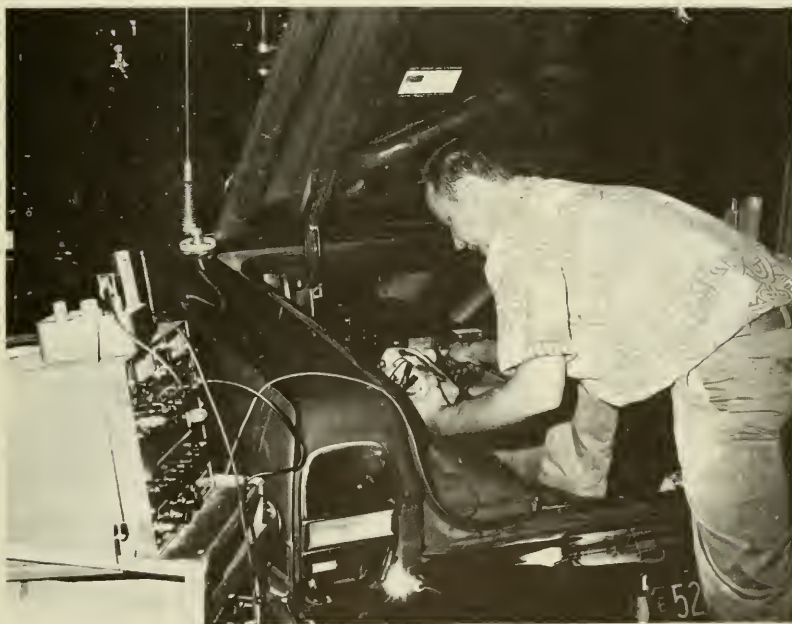
PERCENTAGE OF LABOR ALLOCATED

<u>DEPARTMENT</u>	<u>%7368</u>	<u>%7367</u>	<u>Hours Overtime</u>
Police	50	43.8	116
Fire	37	34	-
Dept. of Public Works	2	1.8	-
Electricity	2	3.8	3
Health	0.5	4.8	-
Supervisors	1	.1	-
Municipal Railway	2.1	6.9	-
Coroner	0.3	.7	-
Water Dept.	2	1.9	-
Harbor Police	0.1	.28	-
Disaster Corps	2	1.06	7
Miscellaneous	1	.86	-

Hours Overtime	126
Days (Temporary Employees)	779
Days (Vacation Relief)	131



Field repair to Fire Truck



Fire Department Mobile Repair



Bench Repair



Base Station Check Out

RADIO SHOP ACTIVITIES

I. Mobile Communications Units Serviced in Radio Shop

- 2588 - Repaired
- 258 - Installations
- 198 - Equipment Removals
- 241 - Miscellaneous Electronic Repairs
- 2305 - Federal Communications Commission
Calibrations.

II. Special Projects

- 605 - Various

III. Preventive Maintenance Services

- 364 - Various Locations

IV. Departmental Services (other than Preventive Maintenance) at the following locations:

Police Department

- 304 - Hall of Justice
- 9 - Various Pawn Shops
- 80 - District Base Stations (Police
Stations)
- 59 - Central Radio Station
- 15 - Bernal Heights Radio Station
- 15 - Helicopter (Shop and Field
Service)

Fire Department

- 124 - Central Fire Alarm Station
- 65 - Central Radio Station
- 52 - District Base Stations
- 61 - Secondary Base Stations
- 163 - Heavy Apparatus Field Repairs
- 37 - Electronic Door Opener Repairs
- 14 - Fire Boat (2 boats)

Dept. of Electricity - Local Government

- 6 - Central Radio Station
- 2 - 901 Rankin Street
- 4 - Bernal Heights
- 7 - Central Fire Alarm Station

Municipal Railway

- 92 - Car Barns (Repairs to Trolley
Coaches, Motor Coaches and PA
systems)
- 19 - Base Stations (Central Radio,
Twin Peaks and Forest Hill)
- 4 - Central Control - Presidio Ave.

RADIO SHOP

Water Department

- 15 - Newcomb Street Yard
- 7 - Bernal Heights Radio Station
- 12 - Central Radio Station
- 15 - Mason Street, Lake Merced, and
Hall of Justice

Dept. of Public Works

- 1 - City Hall - Director's Office
- 4 - Army Street Yard
- 5 - Central Radio Station

Board of Supervisors

- 16 - City Hall Chambers

Health Department

- 4 - San Francisco General Hospital
- 7 - Laguna Honda Hospital

Harbor Police

- 3 - Ferry Building

Disaster Corps

- 8 - E.O.C. - Youth Guidance Center
- 1 - Central Radio Station
- 25 - Disaster Van

Housing Police

- 4 - Hunter's Point Station

Park & Recreation

- 4 - Zoo

MOBILE TWO-WAY RADIO UNITS
SERVICED BY RADIO SHOP

<u>Department</u>	<u>Number of Radio Equipped Vehicles Or Portables</u>	<u>Total Vehicles & Portables</u>
<u>Police</u>		
Cars and Trucks	304 (313 radios)	
Sole Motorcycles	90	
Servicar Motorcycles	109	
Command Car	1 (7 radios)	
Portables (Low Band, High Band, UHF)	124	628
<u>Fire</u>		
Cars & Apparatus	191	
Fire Boats	2	
Command Car	1 (5 radios)	
Portables (UHF)	56	
Portables (Citizen Band)	3	
Portables (Paging Rec)	2	255
<u>Water</u>		
Cars and Trucks	107	
Portables (Low Band)	2	
Portable (Paging Rec)	1	110
<u>Dept. of Public Works</u>		
Cars and Trucks	52	
Boat	1	
Portables (Citizen Band)	4	57
<u>Dept. of Electricity</u>		
Cars and Trucks	32	
Portables (Citizen Band)	2	34
<u>Municipal Railway</u>		
Cars and Trucks	48	
Trolleys	62	
Motor Coaches	522	632
<u>Health Dept.</u>		
Ambulances	14	
Station Wagons	1	
Car	1	
Portables	7	
Portable (Paging Rec)	1	24
<u>Special Police</u>		
Cars	13	
Servicar Motorcycles	1	14
<u>*S.P.C.A.</u>		
Cars and Trucks	8	8

RADIO SHOP

<u>Department</u>	<u>Number of Radio Equipped Vehicles Or Portables</u>	<u>Total Vehicles & Portables</u>
<u>Disaster Corps</u>		
Cars	3	
Communication Van	1 (13 radios)	
Portables (Citizen Band)	3	7
<u>Coroner</u>		
Cars & Ambulances	4	4
<u>Harbor Police</u>		
Cars	2	
Servicar Motorcycles	2	4
<u>Sheriff</u>		
Cars	3	
Bus	1	4
<u>Housing Police</u>		
Cars	4	
Portables	3	7
<u>Chaplains</u>		
Cars	3	3
<u>Police Commission</u>		
Cars	2	2
<u>Fire Commission</u>		
Cars	3	3
<u>Chief Administrative Officer</u>		
Car	1	1
<u>Mayor's Office</u>		
Cars	2	2
<u>*Federal Bureau of Investigation</u>		
Cars	3	3

*Federal Communications Commission
Calibration Only.

ELECTRICAL DIVISION
SUMMARY OF WORK PERFORMED
FISCAL YEAR 1970-1971

CONSTRUCTION, MAINTENANCE AND REPAIR OF:

Central Fire Alarm Station: includes standby generator, rectifiers, main batteries, and all electrical Fire Alarm communications apparatus and circuitry.

Circuits from Central Fire Alarm Station to 2040 Fire Alarm Boxes located in the City streets; testing of each box at 60 day intervals.

Auxiliary Fire Alarm Systems in 126 Public Schools - includes inspection and monthly testing of each school with the Central Fire Alarm Station.

Police Department Emergency Telephone System, consisting of a switchboard and circuits to 469 Police Call Boxes on the City streets and 79 locals in the Hall of Justice and various Bureaus and Police Stations.

Police Teletype System, which includes two teletype transmitters and a control console in the Hall of Justice, with circuits to 22 printers in the Hall of Justice and in various Bureaus and Police Stations in the City.

Bank Alarm System, Private and Local Telephone Systems, and Communication, Alarm, and Signal Systems in the Hall of Justice.

Traffic signals and associated underground control cables at 792 intersections.

Air Raid Sirens at 53 locations; associated remote control equipment.

Auxiliary Fire Alarm Systems: this Division approves, tests, and supervises the connection of Auxiliary Fire Alarm Systems to the Municipal Fire Alarm System by the Auxiliary Fire Alarm Companies legally authorized by franchise or permit to engage in auxiliary fire alarm business in San Francisco.

Overhead lines and underground cable system throughout the City's 49 square mile area.

ELECTRICAL DIVISION

PERMANENT PERSONNEL

- 1 - 7131, Electrical Maintenance and Construction Superintendent
- 1 - 7129, Assistant Electrical Maintenance and Construction Superintendent
- 1 - 5352, Electrical Draftsman
- 1 - 7273, Lineman General Foreman
- 1 - 7257, Lineman Foreman
- 13 - 7338, Linemen
- 3 - 7308, Cable Splicers
- 1 - 7276, Electrician General Foreman
- 2 - 7238, Electrician Foremen
- 14 - 7345, Electricians
- 4 - 7514, General Laborers

Days worked by temporary personnel in the Electrical Division during the fiscal year due to work orders, special projects, vacation relief, and retirements:

7257 Lineman Foreman	194 days
7338 Lineman	1247 days
7308 Cable Splicer	241 days
7345 Electrician	607 days
7215 Laborer Foreman	254 days
7514 Laborer	245 days

FIRE ALARM SYSTEM

Maintained Fire Alarm equipment in the Central Fire Alarm Station and in 46 Fire Stations; also maintained the communications systems connecting these facilities.

Repaired or replaced in Fire Stations:

77	Registers
29	Bells
32	Relays
49	Automatic Light Switches
24	Intercommunication Systems

Inspected and tested with the Central Fire Alarm Station, 2040 Fire Alarm Boxes at least once every 60 days.



Mapping future Underground Districts



Trenching for new
conduit installation



Cable Splicer working
in manhole



Bench-testing Traffic Signal equipment



Main switchboard at Central Radio Station

ELECTRICAL DIVISION

Inspected, serviced, and tested with the Central Fire Alarm Station the Auxiliary Fire Alarm System in 126 Public Schools at least once each month.

On 49 occasions, responded to Schools on complaints or assisted School District Personnel with trouble on the Local Fire Alarm or Auxiliary Fire Alarm System.

Rewound 148 School boxes pulled for false alarms.

Replaced 30 old-style Fire Alarm Boxes with modern 3-fold non-interfering type Fire Alarm Boxes.

Detail assignment responded to 9 cases of Parking Meter trouble and 331 emergency Traffic Signal complaints.

Repaired 27 Fire Alarm Box standards.

Converted 24 Fire Alarm Box services from overhead wire to underground cable.

Repaired or replaced 32 Fire Alarm Boxes damaged by vehicles.

Relocated 9 Fire Alarm Boxes.

Removed 151 Fire Alarm Boxes to the Shop for repairs, and later reinstalled them.

Maintained Fire Alarm System in the Broadway Tunnel for the Department of Public Works.

Cleared 106 cases of trouble on overhead Fire Alarm circuits.

Responded to complaints and made 12 repairs on outside local Fire Alarm Systems.

Conducted weekly tests of Market Street crossing bells; repaired bells at 23 locations.

Rebuilt underground cable porthreads at 15 Fire Alarm Boxes.

Replaced 300 feet of 1/2" conduit to Fire Alarm Boxes on wood poles.

Made repairs, alterations and improvements to overhead Fire Alarm Systems at 246 locations, involving the installation of 118 crossarms and 38,300 feet of overhead line wire.

ELECTRICAL DIVISION

POLICE DEPARTMENT

Repaired and maintained Police Department's switchboard and related equipment at the Hall of Justice and 79 telephones within the Hall of Justice, and 469 call boxes which are located on the City streets and in parks and public buildings and military and private police agencies.

Serviced and maintained the Police Teletype System; answered 24 complaints.

Serviced and maintained the following signal systems at the Hall of Justice:

Coroner's Intercom
Bank Alarm System
Auxiliary Fire
Alarm System

Local Telephone Systems:
1. Chief of Police
2. City Jail Visitors
3. County Jail Visitors

Repaired 71 cases of trouble on the above systems.

Relocated 7 Police Call Boxes.

Repaired, or removed to the Shop for repair, 32 Police Call Boxes.

Replaced 120 feet of 1/2" conduit and wiring to Police Call Boxes mounted on wood poles.

Cleared 69 cases of trouble on Police circuits.

Repaired 4 Police Boxes damaged by vehicles.

Converted 2 Police Boxes from overhead wire to underground cable.

Removed 2 Police Boxes from service and installed 2 new boxes.

CITY AND COUNTY RADIO SYSTEM

Tested and serviced once each week the two emergency generators and associated power plant equipment at the Central Radio Station, Christmas Tree Point, Twin Peaks.

Made quarterly inspection of both towers at the Central Radio Station for corrosion and required maintenance; also serviced photo-cell controls and relamped tower lights.

ELECTRICAL DIVISION

Relamped tower lights at Central Radio Station and Hall of Justice as required.

Installed two antennas on Central Radio Station Towers, at 124 foot height.

Made daily visual check of all tower lights and entered same in log per Federal Communications Commission requirements.

Maintained the landlines between the Central Radio Station and the Control Units located in the Hall of Justice, Central Fire Alarm Station, and various other City Departments which use the City and County Radio System in their daily operations.

DISASTER CORPS

Serviced and maintained, and conducted weekly tests, of the City's 53 Air Raid Sirens and associated remote control circuits and equipment. Located and cleared, or reported to Pacific Telephone Company for clearance, 17 cases of trouble on Air Raid Sirens or Control Circuits.

Maintained emergency power generators, batteries, and associated electrical control equipment at the Civil Defense Control Center.

Disconnected Sirens on 36 occasions, to permit Pacific Telephone and Telegraph Company to work on cable without setting off sirens.

Overhauled sirens at two locations.

Inspected all sirens for paint condition.

UNDERGROUND DISTRICT PROGRAM

Department of Electricity facilities were converted from an overhead to an underground system in the following areas:

Aquatic Park, Stage 1 - Underground District #199
Aquatic Park, Stage 2 - Underground District #199

Pacific, Scott, Broadway, Vallejo, Green Area
Underground District #'s 246 and 247

ELECTRICAL DIVISION

Lake Merced Boulevard and Brotherwood Way
Underground District #264

Burnett Avenue, Dixie Alley to Twin Peaks Boulevard
Underground District #201

Russian Hill Area, Stage I - Underground District #176

Mason Street, Sacramento to Pacific - UG District #274

Roosevelt Way, 14th St to Loma Vista- UG District #249

Buena Vista Terrace, 15th St to Roosevelt Way
UG District #249

Park Hill Ave, Roosevelt to Buena Vista-UG Dist. #260

Crestmont Drive - UG District #201

Pierce and Vallejo Streets - UG District #250

Prepared plans and estimates for converting Department of Electricity facilities from overhead to underground systems in conjunction with Department of Public Works 1971-1972 underground district program.

REDEVELOPMENT AREAS

Department of Electricity, Police, and Fire Alarm facilities were relocated or installed in conjunction with Redevelopment activities in the following areas:

Golden Gateway,
Western Addition A-2.

Plans and estimates were submitted and preliminary work done on:

Hunter's Point Redevelopment
Yerba Buena Project

BAY AREA RAPID TRANSIT DISTRICT

Completed relocation of Underground Fire Alarm and Police Communications facilities, due to construction of:

Twenty-fourth Street Station

ELECTRICAL DIVISION

Sixteenth Street Station
Montgomery Street Station

FREEWAYS

Converted Department of Electricity overhead lines to underground cables on Route 280, from 18th Street to 6th Street.

AUXILIARY FIRE ALARM CONNECTIONS

Installed Master Fire Alarm Box and associated conduit and wiring, and supervised connection of Auxiliary Fire Alarm Systems as follows:

Potrero Hill Junior High School
Visitacion Valley Junior High School
Yerba Buena Convalescent Hospital
Franciscan Hotel
St. Mary's Cathedral
St. Luke's Hospital

INTERDEPARTMENTAL WORK ORDERS

Prepared plans and Estimates and completed work under Department of Public Works Work Orders at the following locations:

Relocating Fire Alarm and Traffic Signal conduits to permit lowering of roadway at

Broadway Tunnel.

Installation of Fire Alarm panels and related equipment at

Firehouses: Engine #43 and Engine #7.

Providing and installing Traffic Signal Minitrol Interconnect Systems at:

29th and Dolores Streets
Masonic and Page Streets
California and Steiner Streets
Ninth and Bryant Streets
Arguello and Clement Streets
Euclid and Lake Streets
Ocean and Howth
Sixth Avenue and Irving

ELECTRICAL DIVISION

Performed the following work under San Francisco Port Commission Work Order:

Pier 80: Extended Municipal Fire Alarm System and installed five new Fire Alarm Boxes.

Piers 33, 35, 37, 39, and 43: Replaced five Fire Boxes with new modern Fire Alarm Boxes.

Pier 50: Cable-splicing primary power distribution system.

Performed the following work under Municipal Railway Work Order:

Hayes and Van Ness: terminated a 600-volt lead cable at crossarm and spliced same in manhole.

MISCELLANEOUS PROJECTS

Relocated Fire Alarm and Police Call Boxes, and associated conduit and wiring, due to building or street construction, as follows:

Fourth and Michigan Streets
3046 Polk Street
Stanyan and Hayes Streets

Repairs, alterations or improvements were made to our underground cable system at 278 locations requiring the installation of approximately 38,102 feet of cable and 3,600 feet of underground conduit.

Surveyed and checked Department of Electricity underground facilities and marked locations on the surface of the street in connection with numerous sewer, water, and street improvement projects.

Checked routing and overhead line clearances in connection with house moving permits.

Relocated Department of Electricity facilities on joint poles at 8 locations in order to provide clearance for cable being installed by Television Signal Corporation.

Transferred Department of Electricity overhead lines to new poles at 84 locations due to the work program of the Pacific Telephone Company and the Pacific Gas and Electric Company.

ELECTRICAL DIVISION

SUMMARY OF TRAFFIC SIGNAL MAINTENANCE FOR THE
FISCAL YEAR 1970-1971

The Traffic Signal Maintenance Section responded to a total of 2,095 complaints requiring immediate attention. These complaints were received from various Governmental Agencies, both State and Municipal, and from private citizens and from personnel of the Department of Electricity. This represents a reduction of approximately 20% over last year's total of 2,566, owing to our program of group replacement of traffic signal lamps, and other preventative maintenance.

As of June 30, 1971, 792 signalized intersections were being maintained.

Associated Traffic Control equipment was maintained as follows:

Signal Heads	6,625
Walk-Wait Signals	1,048
No Left Turn Signs	26
Vehicle Pressure Detectors	556
Pedestrian Pushbuttons	482
Master Controllers	19
Cascade Stations	11
Illuminated Freeway Detour Signs	2
Flashing Beacons	7

Seven (7) new intersections were added during the year, as follows:

Ocean and Howth	September 4, 1970
Bay and Octavia	November 19, 1970
California and Steiner	January 21, 1971
Masonic and Page	January 21, 1971
29th and Dolores	January 26, 1971
Bay and Mason	January 26, 1971
Union and Fillmore	January 28, 1971

Complaints by the Month

<u>1970</u>		November	188	March	167
July	221	December	204	April	160
August	168	<u>1971</u>		May	145
September	212	January	163	June	149
October	203	February	139		

ELECTRICAL OPERATIONS

Field Operations

Checked Operations	783
Controllers Changed	426
Intersections Mass-Relamped	1078
Master and Cascade A.M. Offsets Checked	852
Master and Cascade P.M. Offsets Checked	603
Dial Units Changed	160
Coordination Units Changed	92
Relays Changed	433
Pedestrian Timers Changed	35
Detector Frames Repaired	3
Flashers Changed	43
Cabinet locks adjusted or changed	28
Pedestrian Pushbuttons Changed	46
Marbelite Poles, 10 ft., Replaced	19
Steel Poles, 10 ft., Replaced	33
Signal Heads Replaced	160
Signal Heads Realigned	403
Signal Lens and Reflectors Replaced	94
Visors Replaced	173
Visors Repaired	162
Controller and/or Meter Cabinets Replaced and Repaired	86
Repaired Conduit and Wiring	111
Changed Timing and Placed Timing Cards	345
Neon Transformers Replaced	21
WALK Tubes Replaced	93
WALK Tubes Replaced	111
DON'T WALK Tubes Replaced	38

Repaired and Serviced in the Shop

Controllers	440
Dial Units	361
Pedestrian Timers	63
Relays	821
Flashers	40
Signal Heads	285
Detector Amplifiers	10

A total of 25,376 67-watt lamps were used.

There were 92 complaints covering damages to Traffic Signals.

Conducted a bi-weekly test of Freeway Detour Signs controlled from the Central Fire Alarm Station.



Traffic Signal Shop Dispatch Desk



New high-level Traffic Signal
installation



North of Market Traffic Signal
Master in Central Fire Alarm
Station

ELECTRICAL DIVISION

Conducted weekly tests of ten (10) Cable Car Pre-empt Intersections, one (1) Cable Car crossing, and one (1) turn-table location.

Conducted a monthly test of Fire Alarm Boxes and Traffic Signal Controls in the Broadway Tunnel.

At 42 locations, reset time clocks and program devices back one hour in October and ahead one hour in April, to conform to Daylight Saving Time in California.

Completed Work Orders and Service Orders in the amount of \$18,193 for improvements to signals, as requested by the Traffic Engineers, Department of Public Works.

Installed Minitrol Coordination Units at four locations:

Ocean and Howth
California and Steiner
Masonic and Page
Twenty-ninth and Dolores

Modifications to the Traffic Signals were extensively carried out along Market Street from First to Fourteenth Streets. This was in cooperation with the various phases of BART construction, to facilitate the movement of vehicles and pedestrians.

Numerous timing changes were made to the North-of-Market Grid for the Traffic Signals. Three streets were made one-way in the downtown sector. Geary and Sutter were made westbound and Post Street was reversed from westbound to eastbound traffic. This required the reorientation of many Traffic Signals along these streets.

Howard and Folsom Streets from Embarcadero to 11th Street were made one way. This in turn necessitated many changes to the Traffic Signals and the timing of the various intersections.

A number of changes in the Inner Mission District Traffic Signal System were made from 14th to 25th Streets to coordinate with the BART Daly City Corridor, such as timing, new standards, and controllers, and related work.

Joined the Municipal Railway crews in a systematic overhaul and repair of the preempt switches for the Cable Car System. These switches and speed traps are located between the rails at various signalized intersections along the various routes.

ELECTRICAL DIVISION

Relocated Traffic Signals to facilitate building construction and restored Signals on completion of the following projects:

ARCO Station, Mission and Sickles

Embarcadero Center

Chinese Cultural and Trade Center

Barrett Hotel, Post and Mason

Building, southeast corner of California and Davis

Building, on Market Street opposite Main Street

Building, on Market and Montgomery Streets

Building, Sansome and Clay Streets

Building, Washington and Stockton Streets.

MECHANICAL DIVISION
=====

MANUFACTURE, MAINTENANCE &
REPAIR

The duty of the Mechanical Division is to maintain and repair all mechanical equipment under the jurisdiction of the Department of Electricity and to manufacture parts when required. This equipment includes the following:

- 1) 2040 Fire Alarm Boxes.
- 2) 469 Police Patrol Boxes.
- 3) 792 Traffic Signal Intersections.
- 4) All mechanical equipment at the Central Fire Alarm Station, Central Radio Station, Hall of Justice Communication's Room, and the Plant at 901 Rankin Street.
- 5) 14,426 Parking Meters.
- 6) 53 Emergency Warning Sirens.
- 7) Fifty Five (55) pieces of gas engine driven equipment - 49 mobile and 6 stationary. The repair of the above equipment was done at the Purchasing Shops under the direction and control of the Machine Shop & Parking Meter Superintendent. The servicing of this equipment was done by one Automotive Serviceman at 901 Rankin Street.
- 8) The maintenance of three Departmental Buildings: Plant, 901 Rankin St., Central Fire Alarm Station, 1003 Turk St., and Central Radio Station, Twin Peaks was directed by the Machine Shop and Parking Meter Superintendent, though the majority of the work was accomplished by the Department of Public Works or through contractual services.

Manufactured:

- 1) Three-fold non-interfering Fire Alarm Boxes were made to replace obsolete Fire Alarm Boxes in the High Value Districts and the new Underground Districts. New and replacement parts for Fire Alarm Boxes, Police Patrol Boxes, Registers, Instruments, and Parking Meters, were manufactured in the Machine Shop as needed.

MECHANICAL DIVISION

- 2) Several new parking meter installations were made at various locations and more installations are projected for the future. There are 20 off-street parking lots with a total of 598 parking meters and stalls.

The total number of parking meters installed is 14,426.

- 3) Special mechanical fixtures and apparatus were designed and manufactured to produce functional improvement. Miscellaneous tool and die, experimental projects, and parking meter tests were undertaken and completed.

Maintenance & Repair:

Necessary and vital repairs were made to the mechanical equipment. Some parking meter maintenance has been deferred and preventive maintenance eliminated due to the shortage of personnel. Our requests for additional employees have been denied yearly even though the installations have increased steadily.

Painting:

Fire Alarm Boxes, Police Patrol Boxes, Traffic Signals, Controllers Parking Meters and other miscellaneous equipment were prepared and painted in the shop and field. The sirens were not painted due to a shortage of personnel. We are on a four to five year painting cycle rather than a two year cycle recommended for some of the above equipment.

Other Duties:

Data was compiled for the annual budget, necessary specifications for machinery and automotive equipment were written and requisitions for equipment and supplies were made. Reports and correspondence related to the mechanical division were processed.

Records on all mechanical equipment and parking meter field and shop services were kept.

The work was accomplished by the following personnel:

- 1 - Machine Shop & Parking Meter Superintendent.
- 1 - Instrument Maker Foreman.
- 6 - Instrument Makers.

~~MECHANICAL DIVISION~~
~~MECHANICAL DIVISION~~
~~MECHANICAL DIVISION~~

5 - Maintenance Machinists.
1 - Parking Meter Repairman Foreman.
15 - Parking Meter Repairmen.
4 - Painters.
1 - General Laborer Foreman.
1 - Laborer.
1 - Clerk Typist.
1 - Janitor.
1 - Automotive Serviceman.
38 - Total

* * * *

PERCENT OF PERSONNEL ALLOCATED * VARIOUS DIVISIONS

No.	Class	Title	Fire	Police	Traffic	Radio	Parking Meters	Air Rcid & O.D.	Misc.
1	7123	Machine Shop & Parking Meter Supt.	25	12	16	5	34	1	7
1	7234	Instrument Maker Foreman	35	10	10	8	25	1	11
6	7331	Instrument Makers	45	12	18	8	5	1	11
5	7343	Maint. Mechanists					95		5
1	7215	GenLaborer Foreman					100		
1	7514	Gen. Laborer					100		
1	7243	Parking Meter Repairman Foreman					100		
15	7444	Parking Meter Repairman					100		
4	7346	Painters	2-70	2-14	2-100	2-4	2-8		2-4
1	7410	Automotive Serviceman	30	15	25	10	15		5
1	2714	Janitor	40	10	30	10			10
1	1424	Typist	5	4		1	88		2

Temporary personnel were hired for vacation relief and special projects, as follows:

1 - 7331	Instrument Maker	141 days
2 - 7343	Mechanists	141 "
1 - 7346	Painter	23 "
1 - 7444	Parking Meter Repairman	131 "

MECHANICAL DIVISION
SUMMARY OF ACTIVITIES
FISCAL YEAR 1970-71

	<u>Total Number</u>
Manufactured Fire Alarm Boxes, parts and related equipment	10,617
Repaired Fire Alarm Boxes, parts and related equipment	2,097
Manufactured Police Call Boxes, parts and related equipment	620
Repaired Police Telephones and related Communications equipment	342
Manufactured Traffic Signal Parts and Special Tools	1,026
Repaired Traffic Signals, parts and related equipment	130
Manufactured and repaired miscellaneous radio equipment items	625
Miscellaneous items manufactured and repaired for Plant and vehicular equipment	1,194
Manufactured jigs, fixtures, tools, stamping dies and patterns for Machine Shop production and maintenance work	147
Manufactured miscellaneous parking meter parts	26,855
Repaired parking meter cases, mechanisms, timers, and miscellaneous parts	22,490
All Registers serviced weekly; all Tappers, Jokers and Repeaters serviced monthly at the Central Fire Alarm Station, 1003 Turk Street.	1,682
Emergency Warning Sirens completely overhauled	4

MECHANICAL DIVISION
=====

PAINTING - FIELD AND SHOP

The following items have been prepared, primed and finish coated:

FIRE ALARM SYSTEM

Fire Alarm Boxes - Field and Shop	991
Fire Alarm Box Posts, Bases, Inner Shells, Sockets, Movement Housings, etc., - Field and Shop	1,440

POLICE COMMUNICATION

Police Call Boxes - Field and Shop	152
Miscellaneous items - Shop	75

TRAFFIC SIGNALS

Vehicular Signals - Field	1,021
Vehicular Signals - Shop	485
Signal Controllers - Field	214
Signal Controllers, Doors, Posts, Bases, etc.-Shop	1,327
Walk-Wait Pedestrian Signals - Field	208
" " " " - Shop	210
Signal Posts, Poles, etc., - Field	268
Traffic Signal Visors - Shop	732

RADIO DIVISION

Miscellaneous Radio Equipment - Shop	192
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PARKING METERS

Parking Meter Cases - Shop	324
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MECHANICAL DIVISION
=====

MISCELLANEOUS PAINTING AT PLANT, 901 RANKIN ST.,
CENTRAL FIRE ALARM, 1003 TURK STREET, AND CENTRAL
RADIO STATION, TWIN PEAKS

Cabinets, Siren Parts, Ladders (oiled-shellacked),
Brackets, Radio Equipment, Parts, Aluminum Strips,
Redwood Moulding, touch-up, etc.

344

* * * *

MECHANICAL DIVISION

SUMMARY OF ACTUAL ANNUAL REPAIRS TO PARKING METERS FISCAL YEAR 1970-71

Fire Alarm Box Glass Replaced.....	133
Jammed Intentionally.....	124,539
Cases Cleaned.....	1,047
Damaged Meters Removed.....	743
Exchange Heads.....	74
Exchange Mechanisms.....	5,386
Exchange Mechanisms for Cleaning.....	678
Exchange Timers.....	1,277
Hoods Removed.....	1,045
Lock Open Coin Doors.....	30
Loose Heads.....	257
Loose Mechanisms.....	39
Mechanical Adjustment Mechanisms.....	8,647
Mechanical Adjustment Cases.....	853
Meters Installed.....	458
Meters Removed from Service.....	497
O.K. Requested Inspections.....	1,470
Putty Glass.....	199
Replace Coin Glass.....	597
Replace Coin Lock.....	254
Replace Parts to Cases.....	3,802
Replace Parts to Mechanisms.....	1,042
Replace Signal Glass.....	1,416
Stuck Coins.....	5,432
Service Coin Door.....	37
Service Coin Lock.....	707
Stuck Indicators.....	875
Stuck Signals.....	580
Stuck Timers.....	1,030
Unwound Main Springs.....	2,652
Winding Hole Plugged.....	110
Parking Meter Heads Replaced.....	1,390
Checked for Traffic Fines Bureau.....	4,859
Machine Shop Repairs on Cases.....	2,721
Machine Shop Repairs on Mechanisms.....	5,128
Mechanisms Cleaned and Overhauled.....	5,332
Parking Meters Timers Overhauled.....	828
Parking Meter Posts Cut.....	331
Parking Meter Flanges Drilled.....	798
Parking Meter Flanges Tapped.....	735
Parking Meter Flanges Bored.....	387
Parking Meter Posts-Straightened.....	1,724
" " " Removed.....	508
" " " Relocated.....	214
" " " Installed.....	468
" " " Replaced.....	746
" " " Reset.....	1,111
Parking Meter Complaints received by Telephone:	
Tax Collector's Office.....	4,776
Police Department.....	1,991
Total.....	199,953

MECHANICAL DIVISION
INVENTORY OF PARKING METERS
AS OF JUNE 30, 1971

<u>District</u>	<u>Number</u>	<u>Number in Off-Street Parking Lots</u>
A	856	61
B	936	119
C	1,154	
D	868	40
E	926	
F	871	
G	980	
H	1,169	82
I	954	
J	881	20
K	773	72
L	852	
M	864	
N	906	87
O	<u>838</u>	<u>117</u>
Total	13,828	598
		13,828
		<u>598</u>
Grand Total		14,426

MECHANICAL DIVISION

The following shows material costs through vandalism

Traffic Damages to Parking Meters	\$	11,493.41
Vandalism	\$	<u>8,688.76</u>
	\$	<u>20,182.17</u>

FIRE ALARM OFFICE

The Central Fire Alarm Office at 1003 Turk Street is responsible for receipt of alarms and the dispatching of fire apparatus. The operation of the entire Fire Alarm telegraph system of San Francisco is centered in this office. Fire Alarm personnel also receive trouble complaints and dispatch repairmen in connection with emergency repairs to Traffic Signals, Police and Fire Communications equipment, test defective circuits, and operate the Civil Defense Air Raid Warning System.

Personnel assigned to the Fire Alarm Office are: . . .

- 1 - Chief Fire Alarm Dispatcher
- 9 - Fire Alarm Dispatchers
- 4 - Senior Telephone Operators

Fire Alarm Box circuits in service, including leased telephone lines to Treasure Island	70
New Fire Alarm Boxes in service during Fiscal Year	9
Fire Alarm Boxes discontinued	1
Fire Alarm Boxes transferred	1
Fire Alarm Boxes in service, Dept. of Electricity	1988
Pacific Fire Extinguisher Fire Alarm Boxes with trouble signals	43
Pacific Fire Extinguisher Fire Alarm Boxes without trouble signals	9
Fire Alarm Boxes pulled for test, including 1,269 school boxes	10726
Fire Alarm Boxes out of service temporarily, relief box in service	128
Total Fire Alarm Boxes in service:	2040
(An increase of 6 from Fiscal Year 1969-70)	
Total Police Boxes in service:	469

The following summarizes complaints from the Fire Dept., Police Dept., other Municipal Agencies and private citizens concerning equipment listed below:

Fire Alarm Wire Trouble	460
Registers (Fire Alarm signal)	106
Sirens	22
Police	145
Radio	22
Traffic Signals	2119
Teletype	17
Miscellaneous	353
<u>Total Complaints</u>	<u>3244</u>

(Decrease of 174 from the Fiscal Year 1969-1970)

FIRE ALARM OFFICE

The following summarizes the activities of the Central Fire Alarm Station for the year ending June 30, 1971:

Fire Alarms of fire received and transmitted	16832
Second Alarms of fire received and transmitted	88
Third Alarms of fire received and transmitted	34
Fourth Alarms of fire received and transmitted	9
Fifth Alarms of fire received and transmitted	1
Stills	12172
Directs	1159
Special Calls	<u>185</u> 30480

Secondary signals transmitted covering alarms of fire and routine operational business of the Fire Department

114589

145069*

*This total indicates a decrease of 37,346 in comparison with statistics for the year ending June 30, 1970.

(Note: On October 1, 1970, Mr. Garrett Kone received his permanent Civil Service appointment as Chief Fire Alarm Dispatcher. Prior to Mr. Kone's appointment, Mr. Charles Buckter served the Department well as Chief Fire Alarm Dispatcher on a Limited Tenure appointment from April, 1968, to October, 1970.

I sincerely thank Mr. Buckter for his excellent performance under adverse circumstances.

Burton H. Dougherty)

ACCOUNTING (ADMINISTRATION)

The Senior Accountant, under the direction of the General Manager is responsible for the Accounting (Administration) Division. The Division is composed of three Department of Electricity personnel and one Storekeeper from the Purchasing Department. In addition to Accounting functions, various administrative tasks are assigned which require a portion of the services of two additional personnel. The personnel are as follows:

- 1 - 1652 Senior Accountant
- 1 - 1650 Accountant
- 1 - 1630 Account Clerk
- 1 - 1934 Storekeeper
- 1 - 1446 Senior Clerk Stenographer
- 1 - B512 General Clerk Typist

For functional use, the Division maintains an orderly system of recording costs and revenues which are compiled and reported to management in timely periodic reports.

For cost control of labor, material, services, and equipment, the Division maintains approximately seventy cost accounts as well as accounting for individual budgetary line items. Also, the Division, during the Fiscal Year 1970-71, compiled costs for 254 individual work orders, special jobs, and projects, an increase of 27% over Fiscal Year 1969-70.

During 1970-71, 210 billings, in the amount of \$58,596, were made to cover special jobs, installation funds and damages to City property. Previous year billings numbered 328 in the amount of \$67,261, a decrease of 12.8%. Damage billings were \$32,143 during 1970-71 as compared to \$49,507 during 1969-70, a decrease of 35%

ESTIMATED AND COMPARATIVE REVENUE

	Estimated Revenue <u>1970-71</u>	Collections - Cash Received <u>1970-71</u> <u>1969-70</u>		% Increase (Decrease)
Damage Claims - Traffic Signals. Note A	\$ 20,000	16,964	21,241	(20.1)
Damage Claims - Parking Motors. Note B	4,000	4,063	2,373	71.2
Damage Claims - Police & Fire Alarm Facilities. Note B	8,000	2,001	7,838	(74.5)
Housemoving Electrical Inspection. Note C	100	36	59	(39.07)
Loudspeaker on Vehicles. Note D	<u>-0-</u>	<u>-0-</u>	<u>11</u>	
Total	<u>32,100</u>	<u>23,064</u>	<u>31,522</u>	<u>(26.8)</u>

COMMENT

Collections include all Department of Electricity Revenue collected by this Department or another.

NOTES

- A) Recovery of damages is deposited to Road Fund.
- B) Recovery of damages is deposited to General Fund.
- C) Collections offset actual cost for each inspection of overhead line wires.
- D) This inspection service requirement was discontinued during Fiscal Year 1969-70.

COMPARATIVE EXPENSE STATEMENT

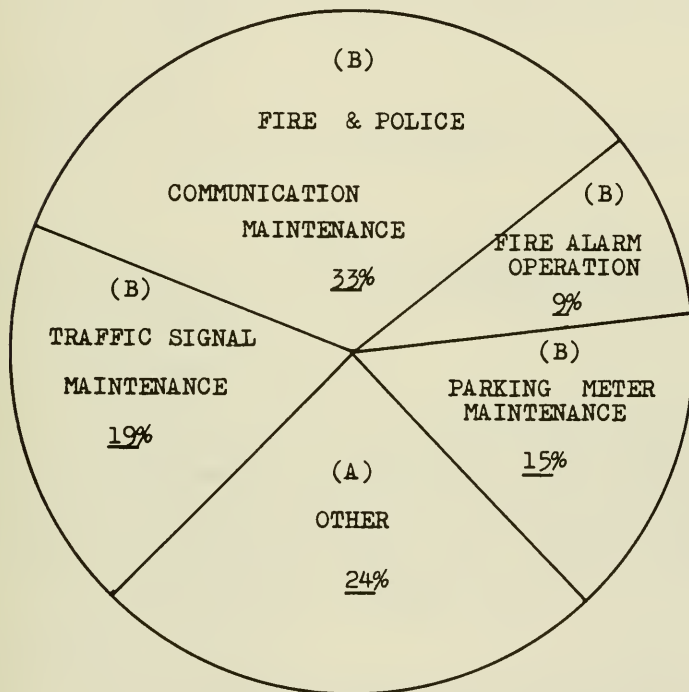
AS OF JUNE 30, 1971

<u>Budget Expense</u>	<u>Expense 1969-70</u>	<u>Expense 1970-71</u>	<u>Allowance 1970-71</u>	<u>Balance 1970-71</u>
Permanent Salaries	\$ 480,408	\$ 511,649	\$ 530,839	\$ 19,190
Overtime Pay	10,416	10,996	10,996	-0-
Holiday Pay	6,311	6,579	6,587	8
Temporary Salaries	9,441	11,244	11,254	10
Wages	951,724	977,345	999,940	22,595
Contractual Services	2,493	2,742	2,956	214
Materials & Supplies	100,527	104,430	104,430	-0-
Equipment	2,999	1,487	1,830	343
Fixed Charges	128	128	128	-0-
Auto Repair	11,004	12,315	12,315	-0-
Reproduction Services	533	636	636	-0-
Structures Repair	-0-	4,353	4,353	-0-
Office Equip Repair	39	104	104	-0-
Telephone & Telegraph	7,749	7,806	7,806	-0-
Scavenger Service	836	975	975	-0-
Light Heat & Power	10,600	11,523	11,500	(23)
Serv of Other Dept's	<u>4,987</u>	<u>5,249</u>	<u>5,249</u>	<u>-0-</u>
Total Budget Expense	<u>1,600,195</u>	<u>1,669,561</u>	<u>1,711,898</u>	<u>42,337</u>
Increased Budget Expense		69,366		
Increased % Over 1969-70		<u>4.3%</u>		

Job Expense:

Interdepartmental W.O.	260,916	479,941	881,904	401,963
Special Projects - Replacements & Improvements	3,835	28,900	63,693	34,793
Installation Fund Jobs	8,931	11,070	18,648	7,578
Private Contractor Jobs	<u>7,918</u>	<u>19,218</u>	<u>26,364</u>	<u>7,146</u>
Total Job Expense	<u>281,600</u>	<u>539,129</u>	<u>990,609</u>	<u>451,480</u>
Increased Job Expense		257,529		
Increased % Over 1969-70		<u>91.5%</u>		
Total Expense	<u>1,881,795</u>	<u>2,208,690</u>	<u>2,702,507</u>	<u>493,817</u>
Increased Expense		326,895		
Increased % Over 1969-70		<u>17.4%</u>		

DEPARTMENT OF ELECTRICITY COST BREAKDOWN 1970-1971



(A) Cost (Reimbursed) - Special Jobs and Interdepartmental Work Orders

(B) Budget Cost

C o m m e n t s

Maintenance includes all damages without offset for collections.

Fire and Police Maintenance includes Underground and Overhead Construction, Teletype and Telephone Systems, Switchboard and related equipment at the Hall of Justice, and all Fire House Stations.

Administrative and overhead costs are assigned to the above functions on a pro-rata cost basis.

DEPARTMENTAL COMMITTEES

SAFETY COMMITTEE

The Department of Electricity Safety Committee, composed of eight members, convened at their regular meetings, and the minutes were recorded.

Industrial Accidents

Twelve (12) were reviewed, two (2) were ruled as Non-Preventable - Ten (10) being found Preventable.

Drives

The San Francisco Chapter of the National Safety Council expressed their appreciation to the Department of Electricity for their outstanding cooperation and support towards the annual "Dollar Membership Drive".

Emergency Life-Saving Techniques

Mr. Jack W. Mitchell, Supervisor of Respiratory Equipment with the San Francisco Fire Department; at the request of Mr. Burton H. Dougherty, General Manager, Department of Electricity, held a three day series of classes in mouth to mouth resuscitation techniques and heart massage, for all Department of Electricity employees. It was a review for some and first time for others. All agreed the knowledge they gained from this was invaluable.

Bulletin Board

The Safety Bulletin Board was maintained up-to-date. All safety bulletins, magazines, newspapers, and directives were shown to members of the Safety Committee so they, in turn, could pass on the latest information received to personnel in their particular division.

At the close of business June 30, 1971, only one (1) recommendation made by the Safety Committee was pending.

The Department of Electricity suffered a great loss with the death of Mr. Jack Reeder, former Secretary of the Safety Committee. He is, and will be, deeply missed.

DEPARTMENTAL COMMITTEES

The General Manager, members of the Safety Committee, and the Division Heads again wish to express their gratitude for the assistance regarding safety problems given by the San Francisco Chapter of the National Safety Council and to all others who supplied us with safety information.

DEPARTMENTAL COMMITTEES

Retirement Committee

Our Retirement Committee consists of representatives of the various Divisions and classifications working in our Department, with a permanent treasurer and secretary, and the chairmanship rotating to the Division within which the retiree is assigned.

During the year, the Retirement Committee arranged for appropriate ceremonies honoring the below listed retirees:

<u>Name</u>	<u>Date Retired</u>	<u>Classification</u>	<u>Years of Service</u>
Hardy Williams	7-22-70	Radic Technician	15
William Colson	10-1-70	CFAS Dispatcher	3½
Myrtle Pastori	1-1-71	Sr. Tele. Operator	23
Theodore Stinger	12-31-70	Lineman	14
Edward Paige	2-1-71	Parking Meter Repairman	21
John Perrick	6-30-71	Lineman	22

DEPARTMENTAL COMMITTEES

MOTOR VEHICLE ACCIDENT REVIEW COMMITTEE

The Department of Electricity has a Motor Vehicle Accident Review Committee which has been active since February, 1965. The Committee has three members appointed by the General Manager.

The purpose of the Motor Vehicle Accident Review Committee is the prevention of motor vehicle accidents by promoting the concept of Defensive Driving.

The committee investigates the following:

- 1) Driver's report of the accident.
- 2) Police Vehicle Accident Report.
- 3) Insurance reports, if any.
- 4) Facts based on an investigation by City representatives, if any.
- 5) Statements of witnesses, if any.
- 6) Diagrams, photographs, and any other available evidence.

At the meeting, each accident is thoroughly discussed, and a decision is reached as to whether the accident is "Preventable" or "Unpreventable". The employee is then notified in writing and if the accident was judged "Preventable", the employee has 15 calendar days to appeal the decision of the committee by writing to the General Manager.

Eighteen (18) accidents were reviewed and twelve (12) were declared "Preventable", with six (6) "Unpreventable". The Department of Electricity employees drove forty-three vehicles approximately 257,344 miles during the Fiscal Year 1970-1971.

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1

DEPARTMENT OF ELECTRICITY

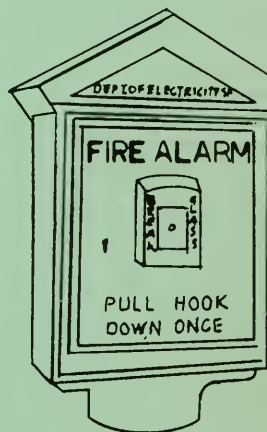
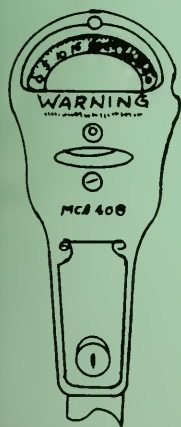
San Francisco

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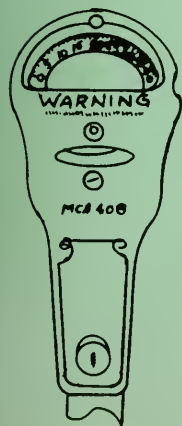
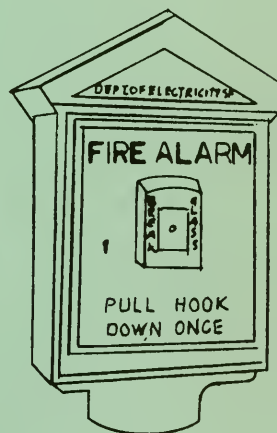
ANNUAL REPORT ENDING JUNE 30, 1971-1972



DEPARTMENT OF ELECTRICITY



ANNUAL REPORT ENDING JUNE 30, 1972



September 6, 1972

Mr. Thomas J. Mellon
Chief Administrative Officer
City and County of San Francisco
289 City Hall
San Francisco, California 94102

Dear Mr. Mellon:

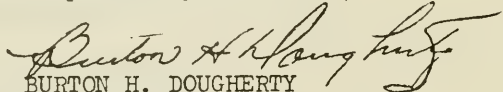
In accordance with the provisions of Section 3.501 of the Charter of the City and County of San Francisco, I am pleased to submit the annual report of the Department of Electricity for the fiscal year 1971-72.

The Department continues to fulfill its responsibilities and performs its functions through organization into five divisions: Administrative (including Accounting), Electrical, Mechanical, Radio and Fire Alarm Operation.

It is through the dedication of the heads of each of our divisions and of each of our employees and of their excellent performance during this past year that we have been able to provide the best service in the most effective manner possible for the various City Departments and for the citizens of San Francisco.

I sincerely appreciate the understanding, cooperation, and help extended by you and your staff during this past year.

Respectfully submitted,



BURTON H. DOUGHERTY
General Manager
Department of Electricity

ANNUAL REPORT
DEPARTMENT OF ELECTRICITY
CITY AND COUNTY OF SAN FRANCISCO
FISCAL YEAR 1971-1972

HON. JOSEPH L. ALIOTO
MAYOR

THOMAS J. MELLON
CHIEF ADMINISTRATIVE OFFICER

BURTON H. DOUGHERTY
GENERAL MANAGER

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Cover by: Donald Pilmer
Department of Electricity

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GENERAL MANAGER
DEPT. OF ELECTRICITY



▲ THIS POSITION REQUESTED IN OUR 1972-1973 BUDGET.

AUTOMOTIVE SERVICEMAN
ASSIGNED TO THIS DEPARTMENT
BY THE PURCHASER OF SUPPLIES

GENERAL MANAGER FUNCTIONS AS THE CHIEF OF COMMUNICATIONS DIVISION UNDER DISASTER CONTS OPERATIONS.

DIRECT SUPERVISION

DISASTER CORPS OPERATIONS AND
PROPOSED NEW SUPERVISORY POSITIONS

ADMINISTRATIVE SUPERVISION ON APPROVAL DIVISION HEAD

RADIO DIVISION
SUMMARY OF ACTIVITIES AND RESPONSIBILITIES
FOR THE FISCAL YEAR 1971 - 1972

In accordance with the objective of the Administrative Code to improve and coordinate the use of radio communication facilities owned and operated by the City and County of San Francisco, or any Department thereof, and to eliminate duplications and interferences, to bring about economies which could not be realized otherwise, and to provide a well-planned program of radio communications for the City and County in the most efficient manner, the Department of Electricity is charged with the responsibility of performing and authority to perform:

- A. Installation, repair, maintenance and inspection of all radio communications equipment owned and operated by the City and County, or any Department or agency thereof.
- B. Make recommendations for proposed radio systems and installations at the request of the Board of Supervisors, or any City or County Department.
- C. Function as technical adviser to all Departments concerning radio facilities, existing or proposed.
- D. Assure that all radio equipment is installed, maintained and operated in compliance with existing laws and regulations.
- E. Make such Rules and Regulations affecting Operational Procedures and conduct, as are necessary, to bring about conformity with Federal Communications Commission requirements.
- F. Provide adequate representation before the Federal Communications Commission in matters affecting the use of radio. Responsible for obtaining proper construction permits and licenses issued by the F.C.C.
- G. Investigate proposed expenditures for radio communication facilities.
- H. Assist and advise the Purchaser of Supplies in standardizing materials, supplies and equipment used for radio communications.
- I. Make necessary recommendations on all plans and specifications for construction of new installations for radio communications by any Department or agency of the City and County.

RADIO ENGINEERING SECTION

The work processed during the fiscal year was as follows:

POLICE DEPARTMENT

Police Instantaneous Communications System (PIC)

Continuing progress has been realized in placing a major portion of the system into operation. Radio control stations and satellite receivers have been installed throughout the City. Base stations for both city-wide system and Zone 11 have been installed at Central Radio Station and the comparator facility at the Hall of Justice was completed. Additionally, Zone 111 transmit and receiving facilities have been installed atop the Bank of America Headquarters Building on California Street.

Arrangements for use of existing facilities to house PIC equipment was carried out with various departments. Leasing agreements and contract negotiations were implemented.

Digital Communications Command and Control Project

Continued effort has been expended on planning of an integrated Command and Control facility to interface with the planned Sylvania Digicom experiment. However, plans are now being developed, should Digicom discontinue, whereby the control console can be constructed independently.

Helicopters

Full specifications covering Police radio communications and control console for the new helicopters were developed. Bids have been awarded and installation is expected in the near future.

Central Radio Station (CRS)

Compiled preliminary engineering data for a study of the compatibility of all future planned UHF frequencies at CRS.

Prepared specifications and requisitioned necessary equipment to upgrade Police Channel 5 throughout the City.

RADIO ENGINEERING SECTION

Re-engineered the existing antenna configuration to facilitate additional requirements.

Performed numerous frequency compatibility tests to determine feasibility of placing additional transmitter and receiver facilities at CRS.

Conducted preliminary study of proposal to relocate an FM broadcast transmitter from O'Connell School to CRS.

Prepared and coordinated the submission of numerous applications for radio system configuration change to the Federal Communications Commission.

Equipment Cost Estimates

Cost estimates were prepared throughout the year for fixed, portable and mobile radio equipment, as well as proposed system changes and modifications.

Law Enforcement Assistance Administration

Assisted Behavioral Science Group, National Bureau of Standards in preparation of a response to survey questionnaire.

FIRE DEPARTMENT

Conducted interference tests with a proposed new fire station at Pacifica, San Mateo County.

Studied plans for a new firehouse. Prepared and submitted information regarding radio requirements to the Bureau of Architecture.

Conferred with representatives of IBM and Fire Department regarding possible UHF radio digital circuits.

Studied and investigated Fire Department Radio Interference to other agencies and recommended solutions.

HEALTH DEPARTMENT

Prepared a radio system concept drawing for the San Francisco General Hospital and provided a cost estimate.

RADIO ENGINEERING SECTION

In support of the Special Emergency Radio/Telemetry System (SERTS), preliminary system planning meetings were held with Department personnel. System information from various contracting engineers was obtained. Engineering data was developed for Department submission of matching fund applications.

Assisted in layout of preliminary floor plans and console design for Central Emergency Hospital.

Performed system compatibility study for possible installation of SERTS UHF Base Stations at CRS.

Prepared radio engineering profile charts for submission of FCC application prior to decision to allocate specific UHF channels.

SHERIFF

Specifications were prepared for the procurement of mobile radio equipment.

Surveyed, planned and provided a cost estimate for a limited usage portable to portable radio system.

Consulted with, and provided planning information, to the Department on a radio system project (Grant) presented for approval of Board of Supervisors.

Conducted a propagation survey on a FIC Channel throughout City Hall.

AIRPORT

Attended project planning meetings for a UHF propagation survey at Airport.

Assembled a portable test system with antenna and assisted in a physical propagation survey.

Submitted application and obtained approval (FCC) to increase number of mobile units on Airport L.G. Radio System.

RADIO ENGINEERING SECTION

DISASTER (EMERGENCY SERVICE)

Conferred with Stanford Research Institute (SRI) and provided background information for a Civil Defense Master Plan that is being developed.

Reviewed procedural and operational checkout of the State communications network with the Office of Civil Defense (OCD) Region II. Initiated procurement of electronic components for the complete (SF) system operation.

Planned, engineered and developed a Radio Amateur Communications Emergency System (RACES) network of a Central Base Mobile Relay Station and associated Mobile radio units. Administered program through recruiting of interested local amateurs. Processed applications, issued equipment and maintained records.

PARK AND RECREATION

Prepared specifications for the requisition of a new radio system and analyzed the Radio Communications System contract bids.

Submitted applications (FCC) for additional mobile units and control stations to the Local Government Radio System.

MISCELLANEOUS

Planned Local Government Radio System for San Francisco Housing Authority. Prepared and submitted (FCC) application and obtained license for operation.

Conducted Frequency Interference Tests with various Bay Area Counties.

Studied and procured authority for operation of a radio net to support Redevelopment Agency's maintenance activity and San Francisco Public Library's limited portable radio net. Operating procedures were provided to each activity.

Attended Policy Planning Conference (APCO) on new allocations of radio channels in the 470-512 MHz Band.

RADIO ENGINEERING SECTION

Supplied representation to Regional Communications Conference and monthly meetings of the Associated Public Safety Communications Officers (APCO) held throughout the Bay Area.

Reviewed and observed demonstrations of various communications products. Evaluated vendor provided equipment for potential employment in existing and planned communications system.

The Department hosted the National Conference of Associated Public Safety Communications Officers (APCO) providing registration support for over 1500 attendees. Conference period was August 9 - 12, 1971.

With the continued trend in the public demand for more efficient and effective radio communications service, our facilities are in need of, and plans are being laid for necessary expansion.

RADIO MAINTENANCE SECTION

SUMMARY OF WORK PERFORMED

Responsibility: Install and maintain communication systems and associated facilities for various departments of the City and County of San Francisco.

The following services were performed for the Police, Fire, Park and Recreation, Public Works, Electricity, Health, Coroner, Municipal Railway, and Water Departments, for the Disaster Corp, Mayor's Office and Board of Supervisors and for the Special Police Group and Housing Police Section:

Maintenance and repair services at the Radio Shop - 901 Rankin Street.

Maintenance and repair services at various outlying locations.

Federal Communications Commission frequency and deviation measurements.

Installation of equipment in new or replacement vehicles.

Removal of equipment from obsolete vehicles.

Respond to emergency service needs during off-duty hours.

Installation and maintenance of Disaster Corps facilities.

RADIO SHOP

EMPLOYEE COMPLEMENT

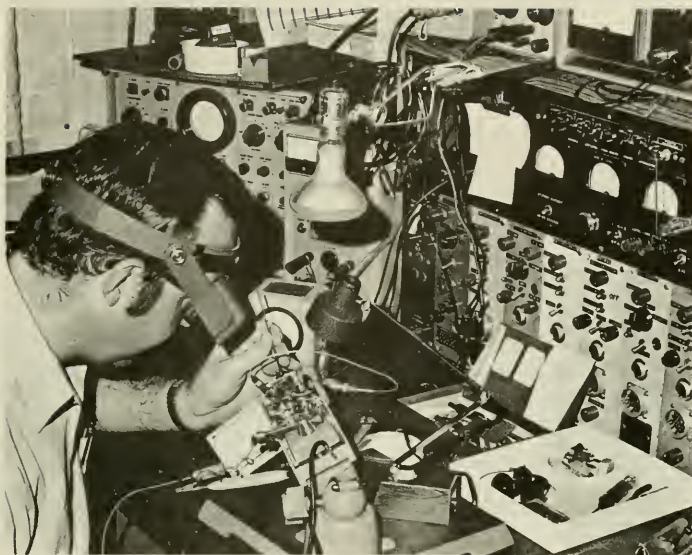
<u>NUMBER OF EMPLOYEES</u>	<u>TITLE</u>	<u>CLASS</u>
1	Senior Radio Technician	7368
5	Radio Technicians	7367
3	L. T. Radio Technicians	7367

PERCENTAGE OF LABOR ALLOCATED

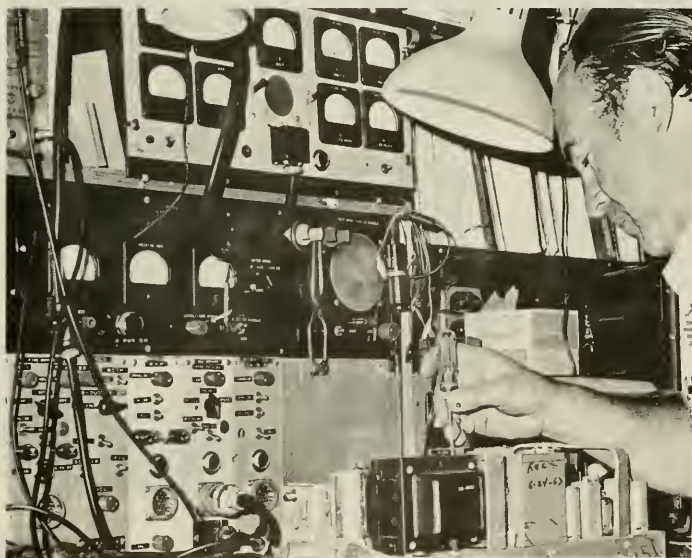
1971 - 1972

<u>DEPARTMENT</u>	<u>% 7368</u>	<u>% 7367</u>	<u>HOURS OVERTIME</u>
Police	64.45	48.38	128
Fire	24.79	17.93	44
Dept. of Public Works	2.0	1.50	3
Electricity	2.36	13.69	14
Health	1.5	1.07	-
Supervisors	0.5	.22	-
Municipal Railway	-	12.62	37
Coroner	0.3	.18	-
Water Department	1.5	2.03	-
Harbor Police	0.1	.28	-
Disaster Corps	1.5	1.85	10
Mayor	-	.06	-
Miscellaneous	1.0	.19	-

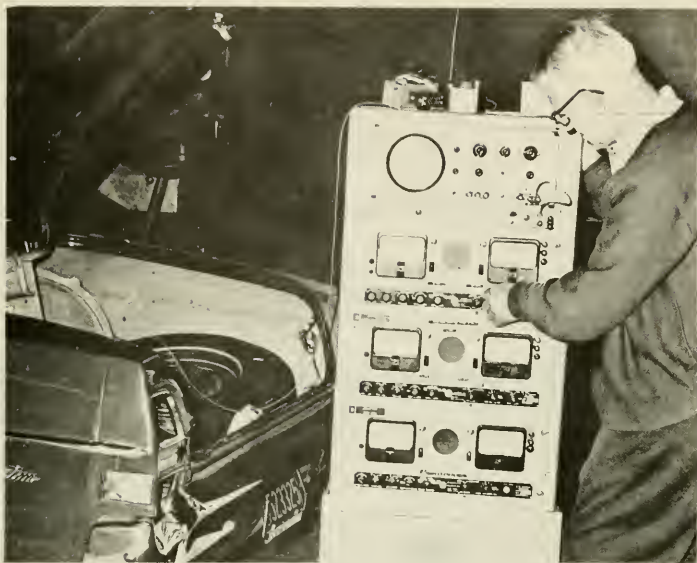
Hours Overtime	236
Days (Temporary Employees)	845
Days (Vacation Relief)	95



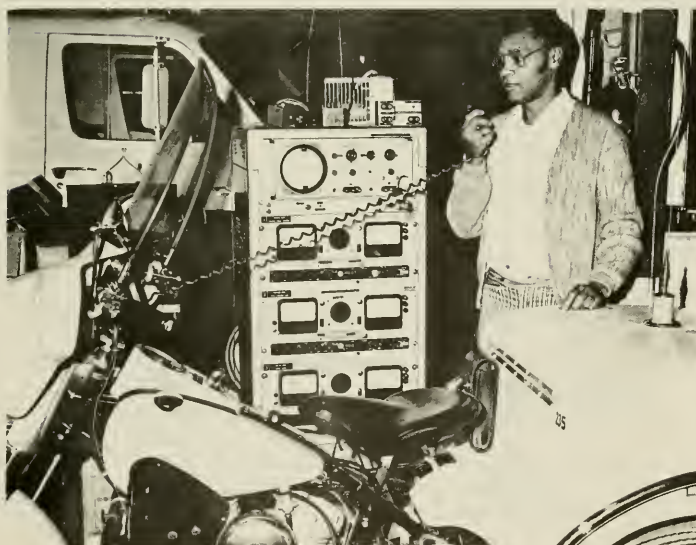
Radios are getting smaller and harder
to repair



Police radio checkout



F.C.C. check to Fire Dept. Car



New 3-wheel motorcycle installation

RADIO DIVISION

RADIO SHOP ACTIVITIES

- I Mobile Communications Units Serviced in the Radio Shop
 - 2947 - Repaired.
 - 115 - Vehicle Installations.
 - 74 - Old Vehicle Equipment Removal.
 - 202 - Miscellaneous Electronic Repairs
- II Federal Communications Commission Calibrations (Includes vehicles, portable units, and base stations)
 - 2980 - Units checked and calibrated.
- III Special Projects
 - 914 - Various, consisting mainly of modifications to new or existing equipment and acceptance checks of new equipment for the Police, Fire Water, Health, and Disaster Departments.
- IV Preventive Maintenance Services
 - 380 - Various Locations.
- V Departmental Services (other than preventive maintenance at the following locations)

Police Department

- 185 - Hall of Justice.
- 101 - District Base Stations (Police Stations)
- 47 - Central Radio Station.
- 15 - Bernal Heights Radio Station.
- 4 - Various Pawn Shops.

FIRE DEPARTMENT

- 90 - Central Fire Alarm Station
- 31 - Central Radio Station
- 116 - Secondary Base Stations (Fire Houses, other Battalion or Division Houses)
- 32 - District Base Stations (Battalion or Division Headquarters)
- 228 - Heavy Apparatus Field Repairs
- 51 - Electronic Door Opener Repairs
- 6 - Field Repairs to (2) Fire Boats.

RADIO DIVISION

Municipal Railway

- 904 - Repairs to Motor Coaches and Trolley Coaches.
- 37 - Base Station Repairs.
- 5 - Central Control Repairs.
- 10 - Car Barn P.A. System Repairs.
- 167 - Miscellaneous radio checks of motor coaches.

Water Department

- 10 - Repairs at Newcomb Street Yard.
- 4 - Repairs at Bernal Heights Radio Station.
- 3 - Repairs at Central Radio Station.
- 4 - Repairs at Mason Street Control and Lake Merced.

Health Department

- 2 - Repairs at San Francisco General Hospital.
- 4 - Repairs at Laguna Honda Hospital.
- 33 - Repairs to Ambulances.

Department of Electricity

- 1 - Central Fire Alarm Station
- 2 - Central Radio Station.
- 3 - 901 Rankin Street.

Coroner

- 3 - Repairs to Autopsy Room Recording System.
- 2 - Repairs to Status Board.

Park and Recreation

- 1 - Repair to Console, Maintenance Yard.

Housing Police

- 1 - Monitor Receiver - Hunter's Point Station

RADIO DIVISION

Department of Public Works

12 - Repairs Central Radio Station

Emergency Services

- 1 - Hall of Justice - State Local Government Net.
- 3 - Central Radio Station - 6 meter repeater.

Sheriff

- 1 - Hall of Justice - County Prison consolette.

City Hall

Supervisors F.A. System.

RADIO DIVISION

MOBILE TWO-WAY RADIO UNITS SERVICED
BY RADIO SHOP

<u>Department</u>	<u>No. of Radios Equipped Vehicles on Portables</u>	<u>Total Radios Maintained</u>
<u>Police</u>		
Cars and Trucks	303 (313 radios)	
Solo Motorcycles	90	
Servicar Motorcycles (including scooters)	130	
Portables (Low Band, High Band and UHF)	198	
Command Car	1 (8 radios)	739
<u>Fire</u>		
Cars and Apparatus	193	
Fire Boats	2	
Command Car	1 (5 radios)	
Portables (UHF)	54	
Portables (Citizen Band)	3	
Portables (Paging Recvr.)	2	259
<u>Water Department</u>		
Cars and Trucks	109	
(includes 1 Game Warden's Car)		
Portables (Low Band)	2	
Portables (Paging Recvr)	2	113
<u>Dept. of Public Works</u>		
Cars and Trucks'	51	
Boat	1	
Portables (Citizen Band)	4	56
<u>Municipal Railway</u>		
Cars and Trucks	54	
Trolleys	74	
Motor Coaches	517	645

RADIO DIVISION

<u>Department</u>	<u>No. of Radios Equipped Vehicles on Portables</u>	<u>Total Radios Maintained</u>
<u>Dept. of Electricity</u>		
Cars and Trucks	32	
Portables (Citizen's Band)	2	34
<u>Health Department</u>		
Ambulance	14	
Station Wagons	1	
Car	1	
Portables	7	
Portable (Faging Rec)	1	24
<u>Special Police</u>		
Cars	16	16
<u>Emergency Services</u>		
Cars	3 (4 radios)	
Communication Van	1 (13 radios)	
Portables (Citizen Band)	3	20
<u>Coroner</u>		
Cars and Ambulances	4	4
<u>Harbor Police</u>		
Cars	2	
Servicar Motorcycles	2	4
<u>Sheriff</u>		
Cars	7	
Bus	1	8
<u>Park and Recreation</u>		
Cars	8	
Trucks	3	
Portables (Citizen's Band)	3	14
<u>Mayor's Office</u>		
Cars	3	3
<u>Housing Police</u>		
Cars	4	
Portables	3	7

RADIO DIVISION

<u>Department</u>	<u>No. of Radios Equipped Vehicles on Portables</u>	<u>Total Radios Maintained</u>
<u>Chaplains</u>		
Cars	3	3
<u>Police Commission</u>		
Cars	2	2
<u>Fire Commission</u>		
Cars	2	2
<u>Chief Administrative Officer</u>		
Car	1	1
<u>*Federal Bureau of Investigation</u>		
Cars	3	3
<u>*Society for Prevention of Cruelty to Animals</u>		
Cars and Trucks	8	8
Total mobile and portable radios - - - - -		<u>1965</u>

*Federal Communications Commission Calibration Only.

RADIO DIVISION

Base Stations Maintained

Police Department

At Central Radio Station	6 low band units 3 high band units 2 UHF units 1 microwave terminal
At Bernal Heights Station	2 low band units
At Hall of Justice	1 high band unit 1 UHF unit 1 microwave terminal
At Police Stations, Pistol Range and Stables	9 low band units 5 UHF units
At Bank of America	1 UHF unit

Fire Department

At Central Radio Station	2 low band units 2 high band units 1 microwave terminal
At Central Fire Alarm Station	1 high band unit 1 microwave terminal
At Fire Houses, and Airport	16 low band units

Emergency Services

At Emergency Operating Center	2 low band units
At Hall of Justice	1 high band unit
At Central Radio Station	1 - 6 meter unit

Water Department

At Central Radio Station	2 low band units 1 UHF unit
At Bernal Heights Station	2 low band units
At Lake Merced	1 low band unit

RADIO DIVISION

Municipal Railway

At Central Radio Station	1 low band unit
At Twin Peaks Blockhouse	2 low band units
At Forest Hill Blockhouse	4 low band units

Health Department

At San Francisco General Hospital	1 high band unit
At Laguna Honda Hospital	2 high band units

Harbor Police

At Ferry Building	1 low band unit
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Sheriff

At Hall of Justice County Prison	1 high band unit
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Department of Public Works

At Central Radio Station	2 low band units
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Department of Electricity

At Central Radio Station	2 high band units
At Central Fire Alarm	1 high band unit
At Bernal Heights	1 high band unit
At 901 Rankin	1 high band unit

Park and Recreation

At Mc Laren Lodge	1 high band unit
At Maintenance Yard Golden Gate Park	1 high band unit

ELECTRICAL DIVISION
SUMMARY OF WORK PERFORMED
FISCAL YEAR 1971-1972

CONSTRUCTION, MAINTENANCE AND REPAIR OF:

Central Fire Alarm Station: includes standby generator, rectifiers, main batteries and all electrical fire alarm communications apparatus and circuitry.

Circuits from Central Fire Alarm Station: to 2044 Fire Alarm boxes located in the City Streets are tested every 60 days.

Auxiliary Fire Alarm Systems in 128 Public Schools: are inspected and tested every 30 days.

Police Department Emergency Telephone System: consisting of a switchboard and circuits to 469 police call boxes on the City Streets and 79 in the Hall of Justice and various Bureaus and Police Stations.

Police Teletype System, which includes two teletype transmitters and a control console in the Hall of Justice with circuits to 22 printers in the Hall of Justice and in various Bureaus and Police Stations throughout the city.

Bank Holdup Alarms, Private and local Telephone Systems and Communication, Alarm, and Signal System in the Hall of Justice.

Traffic Signals, and associated underground control cables at 811 intersections.

Air Raid Sirens, at 53 locations with associated remote control equipment.

Auxiliary Fire Alarm Systems: This Department approves, tests, and supervises the connection of auxiliary fire alarm systems to the Municipal Fire Alarm System by the Auxiliary Alarm Companies legally authorized by franchise or permit to engage in the auxiliary fire alarm business in San Francisco.

Overhead lines and underground cable system through out the City's 49 square mile area.

ELECTRICAL DIVISION

PERMANENT PERSONNEL

- 1 - 7131, Electrical Maintenance and Construction Superintendent
- 1 - 7129, Assistant Electrical Maintenance and Construction Superintendent
- 1 - 5352, Electrical Draftsman
- 1 - 7273, Lineman General Foreman
- 1 - 7257, Lineman Foreman
- 13 - 7338, Lineman
- 1 - 7276, Electrician General Foreman
- 2 - 7238, Electrician Foreman
- 14 - 7345, Electrician
- 4 - 7514, Laborers

Days worked by temporary personnel in the Electrical Division during the fiscal year due to work order, special projects, and retirements.

7338 Lineman	1407 days
7308 Cable Splicer	206 days
7514 Laborer	221 days

FIRE ALARM SYSTEM

Maintained Fire Alarm equipment in the Central Fire Station and 46 Fire Stations, 2 pumping stations, and 2 tanks and also maintained the communications network connecting these facilities.

Replaced or repaired in Fire Station:

105	Registers
53	Bells
58	Automatic Lights
16	Relays
4	Intercommunication Systems



Lineman replacing crossarm



Locating underground conduit



Exposing underground conduit



Pulling in new cable



Cable dolly with cable at job

ELECTRICAL DIVISION

During the past fiscal year this Department installed 7 new, relocated 4, removed 3, changed from overhead to underground 7, and modernized 25 fire alarm boxes.

Answered 57 trouble complaints to Public School Auxiliaries and assisted school personnel with the repairs on the local and Auxiliary Fire Alarm Systems. This including resetting the Auxiliary Master Station and also the Master Street Fire Alarm Box.

Responded to and repaired 299 cases of trouble to the overhead and underground systems.

Made repairs to 45 damaged fire alarm boxes.

Made repairs to fire alarm cable damaged at 8 locations.

Removed 149 fire alarm boxes to shop for routine maintenance.

Installed 350' of conduit for pole mounted fire alarm boxes.

Transferred overhead Department of Electricity facilities from old to new poles at 167 locations.

Answered complaints on and repaired 4 cases of trouble on outside local fire alarm equipment.

Maintained and tested the Fire Alarm Master and Auxiliary Systems in the Broadway Tunnel.

Tested Auxiliary and Master Fire Stations in conjunction with local personnel at the following locations:

Hunters Point Navy Yard	U. C. Hospital
Port Authority	Department of Public Works
Elkton Shop (Muni R. R.)	Kirkland Yard Muni R. R.

Extended Municipal Fire Alarm System to Lash Terminal and installed 5 fire alarm boxes required by the San Francisco Fire Department.

Installed Auxiliary Fire Alarm System to two buildings and connected to Municipal Fire Alarm Boxes for Galileo High School, West Campus, and Fort Mason.

ELECTRICAL DIVISION

POLICE DEPARTMENT

Maintained and repaired at the Hall of Justice as required:

The Police switchboard with 79 connecting telephones within the Hall of Justice and circuits to 469 call boxes on the City Streets.

Chief of Police's private telephone system.

City and County Jail, telephone system.

Police Department teletype system.

Auxiliary Fire Alarm System.

Bank Alarm Control Panel

Coroner's Intercom System

Repaired or removed to the shop for repair 32 Police Call Boxes.

Cleared 69 cases of trouble on Police Circuits

Replaced 4 Police Call Boxes damaged by vehicles.

Installed 2 new Police Call Boxes.

RADIO SYSTEM

Serviced and tested weekly the generator at the Central Radio Station located on Twin Peaks.

Inspected the Central Radio Station Towers quarterly. Also serviced the Photoelectric light controls and relamped Towers as necessary.

Made a visual check daily of lights on the Central Radio Station Towers and replaced as required.

Installed and removed antennas from Central Radio Station Towers as requested.

Installed 2 antennas and lead in cable at the Hall of Justice.

ELECTRICAL DIVISION

Maintained the audio lines between the Hall of Justice, the Central Fire Alarm, The Central Radio Station, and the Station on Bernal Heights.

DISASTER CORPS

Serviced and maintained air raid sirens at 53 locations. Removed 2 sirens to shop for repair and replaced when repairs were completed.

Maintained and serviced the emergency generators and associated electrical equipment at the Civil Defense Control Center.

Disconnected sirens at various times at the request of the Pacific Telephone and Telegraph Company to allow work on control circuits.

Responded to 4 cases of trouble on air raid sirens.

UNDERGROUND DISTRICT PROGRAM

Department of Electricity facilities were converted from an overhead to an underground system in the following areas:

Castro Street	Duboce to Market
Monterey Boulevard	Circular to Ridgewood
Pine Lake Park Area	
Miraloma Park District	

Miscellaneous Work Performed

Prepared plans and estimates for:

Installation of Master Box and Auxiliary Fire Alarm connections to various schools under construction.

Installation of Municipal Fire Alarm Boxes Lake Merced Hill Project.

Relocation of Department of Electricity cable system on Howard Street between Third and Fourth Street required due to Yerba Buena Project.

ELECTRICAL DIVISION

Temporary relocation of Department of Electricity cables and restoration to original location due to construction of Geary Street Underpass.

Surveyed and checked Department of Electricity underground facilities and marked locations on surface of street in connection with numerous sewer, water, street improvement, P. T. & T. and P. G. & E. Projects.

Rearranged Department of Electricity circuits on joint poles as required for Viacom International Inc. formerly Television Signal Corp.

Transferred Department of Electricity overhead circuits to new poles at numerous locations as required due to work programs of the P. T. & T. and P. G. & E. Companies.

ELECTRICAL DIVISION
SUMMARY OF TRAFFIC SIGNAL MAINTENANCE FOR
THE FISCAL YEAR 1971 - 1972

The Traffic Signal Maintenance Section responded to a total of 1937 complaints of malfunctioning traffic signals requiring immediate attention. These complaints were received from various Governmental Agencies, both State and Municipal, from private citizens, and from the personnel of the Department of Electricity. This represents a further decrease from the previous year, (2095), due to our program of group relamping, and other preventative maintenance.

As of June 30, 1972, 811 signalized intersections were being maintained, and an increase from 792 intersections the previous year, and 691 intersections ten years ago. This has been done despite a shortened work day, and without any additional personnel!

Associated Traffic Control equipment was maintained as follows: Illuminated freeway signs of various types, "No Left Turn" signs, flashing beacons, 20 master controllers with their cascade relay stations, and 2 traffic counting computers which regulate heavy traffic on the access roads to Candlestick Park.

Signals were checked weekly at the intersections preempted by cable cars, Freeway Detour Signs bi-weekly, and the Broadway Tunnel fire preempts monthly.

Many Time Clocks regulating Master Controllers, Beacons, No Left Turn signs, etc., were adjusted the last Sunday in April and the last Sunday in October, to conform to Daylight Saving Time.

During the year 17 new intersections were added to the Traffic Signal System:

Sutter and Buchanan	Fulton and Sixth Avenue
Sutter and Laguna	Fulton and Tenth Avenue
Post and Buchanan	Fulton and 30th Avenue
Sacramento and Divisadero	Fulton and 36th Avenue
Sacramento and Presidio	Fulton and 43rd Avenue
California and Jones	16th and Sanchez
Fillmore and Hayes	Alemany and Brotherhood
Monterey and Genessee	Brotherhood and Arch
California and Cherry	

ELECTRICAL DIVISION

FIELD OPERATIONS

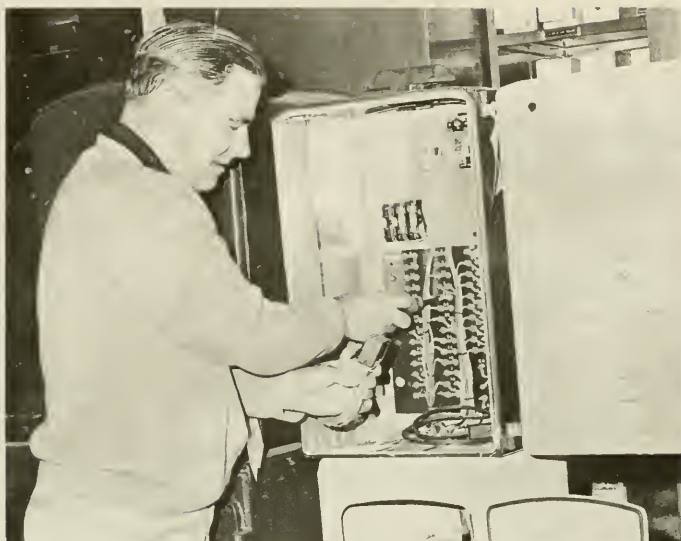
Checked Operations-	655
Controllers Changed	567
Relays Changed-	732
Coordination Units Changed-	85
Detector Amplifiers Changed	17
Intersections Mass Relamped	1228
Master & Cascade AM Offsets Checked	945
Master & Cascade FM Offsets Checked	728
Dial Units Changed-	106
Damaged Conduit & Wiring Repaired	507
Pedestrian Push-buttons Changed	35
Detector Pads Changed, 6 ft.-	42
Steel Pole, 10 ft. Changed	33
Marbelite Pole, 10 ft. Changed	41
Signal Heads Changed-	182
Signal Heads Realigned-	412
Signal Lens & Reflectors Replaced	144
Visors Replaced	232
Visors Repaired	282
Flashers Changed-	43
Controller Cabinet Replaced	45
Controller Cabinet Repaired	53
Pedestrian Timer Replaced	71
Pedestrian Signals Repaired	111
Checked Timing & Placed Timing Cards-	311
Coordination Units Repaired	69

LAMP, TUBE TRANSFORMER REPLACEMENT

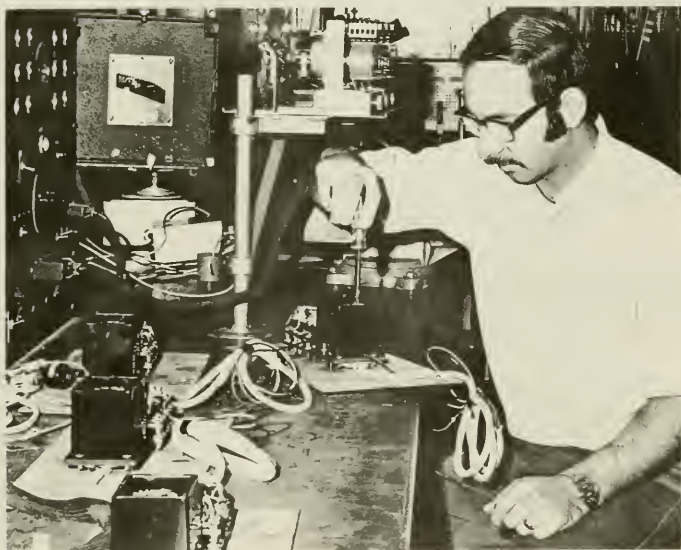
WAIT tube	88
WALK Tube	163
DON'T WALK Tube	35
Transformers-	21
TURN Tube	9
Grid Tubes-	28
Fluorescents-	75
67 Watt Lamps	14,800

SHOP OPERATIONS

Controllers Serviced-	423
Dial Units Serviced	364
Relays Serviced	731
Pedestrian Timers Serviced-	66
Flashers Serviced	49
Signal Heads Serviced	213
Coordination Units Serviced	91



Wiring traffic controller in shop



Repairing traffic flasher units

ELECTRICAL DIVISION

Alteration and construction work in the amount of \$21,828.72 was completed for the Department of Public Works, Traffic Engineering Section, and for contractors when building construction required the relocation or modification of Traffic Signals temporarily.

These Work Orders and Special Jobs included:

Mission at Main and Beale Streets: Restored signals to normal after completion of the new Pacific Gas and Electric Building.

Elk and Chenery: Installed two (2) flashing beacons for Elk Street traffic at the entrance to Chenery Park.

Seventh Street and Market and Mission Streets: Installed a Bell-Buzzer audio signal to assist the blind in crossing these hazardous intersections.

Oak and Octavia: Installed a special cascade relay station to connect the Fell and Oak Streets Signal System to the North of Market System.

Bay Street at Laguna, Franklin, Taylor, and Powell Streets: Replaced traffic actuated controllers with pre-timed units to improve traffic flow on Bay Street.

Kearny Street and Telegraph Hill: Installed and subsequently removed a temporary signal intersection, during construction.

Broadway Tunnel: Installed four (4) telephones at preempted intersections to facilitate testing.

Nineteenth and Irving: Installed a new "No Left Turn" sign on South West corner to facilitate the school pedestrian traffic.

Market Street at various locations: Modified signals at the request of the Traffic Engineer to facilitate traffic movement during BART construction.

Stanyan Street at Haight and Waller and Fulton Streets at Eighth Avenue: Replaced traffic actuated controllers with pre-timed units to incorporate these intersections into new signal systems.

ELECTRICAL DIVISION

Portola and Kensington: Removed pedestrian signals after construction of an elevated pedestrian bridge.

Various locations: Installed 12" red indications in place of standard 8" indications at the request of the Traffic Engineer.

Various locations: Replaced six (6) obsolete IBM program devices with new time clocks to improve the reliability of signal programming.

Seventh and Ninth, Outer Mission Street and various other locations: Installed new time clocks to provide flashing operation at night.

California and Cherry: Installed new signals and wired intersection at an emergency request from the Traffic Engineer.

Various locations: Modified locks on traffic signal cabinets to prevent vandals from disabling the signals.

Continued our group relamping program replacing 14,800 67 watt traffic signal lamps prior to reaching their anticipated average rated life.

MECHANICAL DIVISION

MANUFACTURE, MAINTENANCE & REPAIR

Under the general administrative direction of the General Manager, the Machine Shop and Parking Meter Superintendent directs and supervises all maintenance and repair to all mechanical equipment under the jurisdiction of the Department of Electricity. The duty of the Mechanical Division is to maintain and repair all mechanical equipment and to manufacture parts when required. This equipment includes the following:

- 1) 2042 Fire Alarm Boxes.
- 2) 469 Police Patrol Boxes.
- 3) 811 Traffic Signal Intersections.
- 4) All mechanical equipment at the Central Fire Alarm Station, Central Radio Station, Hall of Justice Communication's Room, and the Plant at 901 Rankin Street.
- 5) 14,153 Parking Meters.
- 6) 53 Emergency Warning Sirens.
- 7) Fifty Six (56) pieces of gas engine driven equipment - 49 mobile and 7 stationary. The repair of the above equipment was done at the Purchasing Shops under the direction and control of the Machine Shop & Parking Meter Superintendent. The servicing of this equipment was done by one Automotive Serviceman at 901 Rankin Street.
- 8) The maintenance of three Departmental Buildings: Plant, 901 Rankin St., Central Fire Alarm Station, 1003 Turk St., and Central Radio Station, Twin Peaks was directed by the Machine Shop and Parking Meter Superintendent, though the majority of the work was accomplished by the Department of Public Works or through contractual services.

Manufactured:

- 1) Three-fold non-interfering Fire Alarm Boxes were made to replace obsolete Fire Alarm Boxes in the High Value Districts and the new Underground Districts. New and replacement parts for Fire Alarm Boxes, Police Patrol

MECHANICAL DIVISION

Boxes, Registers, Instruments, and Parking Meters, were manufactured in the Machine Shop as needed.

- 2, Several new parking meter installations were made at various locations and approximately 1100 more installations are projected for the future. There are 20 off-street parking lots with a total of 598 parking meters and stalls.

The total number of parking meters installed is 14, 153.

- 3) Special mechanical fixtures and apparatus were designed and manufactured to produce functional improvement. Miscellaneous tool and die, experimental projects, and parking meter tests were undertaken and completed.

Maintenance & Repair:

Necessary and vital repairs were made to the mechanical equipment. Some parking meter maintenance has been deferred and preventive maintenance eliminated due to the shortage of personnel. Our requests for additional employees have been denied yearly even though the installations have increased steadily, vandalism has increased, and intentional jamming of Parking Meters has increased 424% or an average of 15,000 jammed meters a month.

Painting:

Fire Alarm Boxes, Police Patrol Boxes, Traffic Signals, Controllers Parking Meters and other miscellaneous equipment were prepared and painted in the shop and field. The sirens were not painted due to a shortage of personnel. We are on a four to five year painting cycle rather than a two year cycle recommended for some of the above equipment.

Other Duties:

Data was compiled for the annual budget, necessary specifications for machinery and automotive equipment were written and requisitions for equipment and supplies were made. Reports and correspondence related to the mechanical division were processed.

Records on all mechanical equipment and parking meter field and shop services were kept.

The work was accomplished by the following personnel:

- 1 - Machine Shop & Parking Meter Superintendent,

MECHANICAL DIVISION

- 1 - Instrument Maker Foreman.
- 6 - Instrument Makers.
- 5 - Maintenance Machinists.
- 1 - Parking Meter Repairman Foreman.
- 15 - Parking Meter Repairmen.
- 4 - Painters.
- 1 - General Laborer Foreman.
- 1 - Laborer.
- 1 - Clerk Typist.
- 1 - Janitor.
- 1 - Automotive Serviceman.

38 - Total

* * * * *

PERCENT OF PERSONNEL ALLOCATED * LARIUS DIVISIONS

No.	Class	Title	Fire	Police	Traffic	Radio	Parking Meters	Air Raid E.O.D.	Misc.
1	7123	Machine Shop & Parking Meter Supt.	22	10	15	5	39	1	7
1	7274	Instrument Maker Foreman	25	10	8	8	25	1	12
6	7371	Instrument Makers	45	12	18	8	5	1	11
5	7343	Maint. Machinists					95		5
1	7215	Gen Laborer Foreman					100		
1	7514	Gen. Laborer					100		
1	7243	Parking Meter Repairman Foreman					100		
15	7444	Parking Meter Repairman					100		
4	7346	Painter	2-70	2-14	2-100	2-4	2-8		2-4
1	7410	Automotive Serviceman	30	15	25	10	15		5
2	1424	Clerk Typist	5	4		1	88		2

Temporary personnel were hired for vacation relief and special projects, as follows:

- 1 - 7371 Instrument Maker 64 days
- 2 - 7343 Machinists 256 days
- 1 - 7444 Parking Meter Repairman 187 days



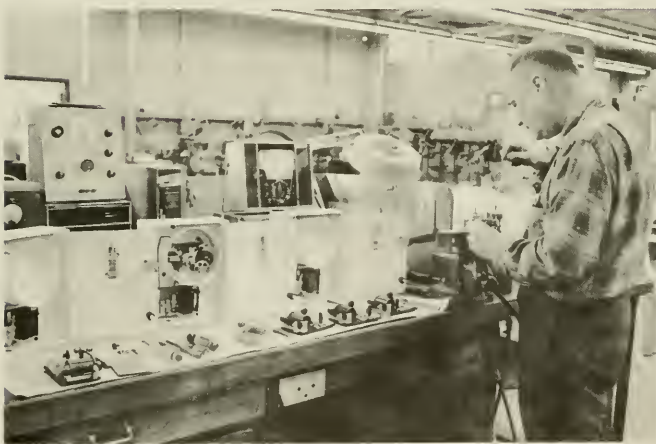
Precision Blanking and Forming Dies are manufactured and maintained for the production of Fire Alarm Boxes, Police Call Boxes, Parking Meters, Traffic Signals, etc.



Machine Shop Tools used in the manufacture of parts, punch, press, turret lathe, shaper, and milling machine.



Machinist cutting Plexiglas for Parking
Meter Signal Window.



Fire Box Mechanisms and related components
undergoing assembly and testing before
installation.

MECHANICAL DIVISION

SUMMARY OF ACTIVITIES
FISCAL YEAR 1971-72

	<u>Total Number</u>
Manufactured Fire Alarm Boxes, parts and related equipment	7,220
Repaired Fire Alarm Boxes, parts and related equipment	2,707
Manufactured Police Call Boxes, parts and related equipment	733
Repaired Police Telephones and related Communications equipment	248
Manufactured Traffic Signal Parts and Special Tools	1,660
Repaired Traffic Signals, parts and related equipment	255
Manufactured and repaired miscellaneous radio equipment items	701
Miscellaneous items manufactured and repaired for Plant and vehicular equipment	954
Manufactured jigs, fixtures, tools, stamping dies and patterns for Machine Shop production and maintenance work	67
Manufactured miscellaneous parking meter parts	25,675
Repaired parking meter cases, mechanisms, timers, and miscellaneous parts	21,080
All Registers serviced weekly; all Tappers, Jokers and Repeaters serviced monthly at the Central Fire Alarm Station, 1003 Turk Street.	2,255
Emergency Warning Sirens completely overhauled	8

MECHANICAL DIVISION

PAINTING - FIELD AND SHOP

The following items have been prepared, primed and finish coated:

FIRE ALARM SYSTEM

Fire Alarm Boxes - Field and Shop	1,006
Fire Alarm Box Posts, Bases, Inner Shells, Sockets, Movement Housings, etc., - Field and Shop	910

POLICE COMMUNICATION

Police Call Boxes - Field and Shop	165
Miscellaneous items - Shop	50

TRAFFIC SIGNALS

Vehicular Signals - Field	922
Vehicular Signals - Shop	195
Signal Controllers - Field	88
Signal Controllers, Doors, Posts, Bases, etc. - Shop	144
Walk-Wait Pedestrian Signals - Field	146
" " " " - Shop	43
Push Button Pedestrian Signals - Field and Shop	85
Signal Posts, Poles, etc., - Field and Shop	330
Traffic Signal Visors and Louvers - Field and Shop	545

RADIO DIVISION

Miscellaneous Radio Equipment - Shop	173
--------------------------------------	-----

PARKING METERS

Parking Meter Cases - Shop	359
----------------------------	-----

MISCELLANEOUS PAINTING AT PLANT, 901 RANKIN ST., CENTRAL FIRE ALARM, 1003 TURK STREET, AND CENTRAL RADIO STATION, TWIN PEAKS

Cabinets, Siren Parts, Ladders (oiled-shellacked). Brackets, Radio Equipment, Parts, Aluminum Strips, Redwood Moulding, touch-up, etc.	354
--	-----

MECHANICAL DIVISIONSUMMARY OF ACTUAL ANNUAL REPAIRS TO PARKING METERS
FISCAL YEAR 1971-72

Fire Alarm Box Glass Replaced.	101
Intentionally Jammed Parking Meters Cleared . . .	152,743
Cases Cleaned.	691
Damaged Meters Removed	328
Exchange Heads	313
Exchange Mechanisms.	5,345
Exchange Mechanisms for Cleaning	1,117
Exchange Timers.	1,390
Hoods Removed.	654
Lock Open Coin Doors	12
Loose Heads.	345
Loose Mechanisms	27
Mechanical Adjustment Mechanisms	8,924
Mechanical Adjustment Cases.	3,818
Meters Installed	346
Meters Removed from Service.	320
O.K. Requested Inspections	1,246
Install Glass Gaskets.	186
Replace Coin Glass	456
Replace Coin Lock.	86
Replace Parts to Cases	3,291
Replace Parts to Mechanisms.	1,369
Replace Signal Glass	1,380
Stuck Coins.	4,728
Service Coin Door.	8
Service Coin Lock.	957
Stuck Indicators	1,090
Stuck Signals.	828
Stuck Timers	1,581
Unwound Main Springs	3,428
Winding Hole Plugged	220
Parking Meter Heads Replaced	1,190
Checked for Traffic Fines Bureau	6,240
Machine Shop Repairs on Cases.	2,521
Mechanisms Cleaned and Overhauled.	10,721
Parking Meters Timers Overhauled	2,088
Parking Meter Posts Cut.	534
Parking Meter Posts Reinstalled for Bart	109
Parking Meter Posts-Straightened	2,320
" " " Removed.	469
" " " Relocated.	36
" " " Installed.	309
" " " Replaced	731
" " " Reset.	1,082
Parking Meter Complaints received by Telephone:	
Tax Collector's Office.	4,853
Police Department	2,293
Total	232,824

MECHANICAL DIVISION
INVENTORY OF PARKING METERS
AS OF JUNE 30, 1972

<u>District</u>	<u>Number</u>		<u>Number in Off-Street Parking Lots</u>
A	870		61
B	982		119
C	872		
D	861		40
E	879		
F	716		
G	914		
H	1,121		82
I	946		
J	906		20
K	803		72
L	843		
M	894		
N	992		87
O	<u>956</u>		<u>117</u>
Total	13,555	13,555	598
		598	
Grand Total		<u>14,153</u>	

The following are material costs as follows:

Traffic Damages to Parking Meters	\$	11,096.13
Vandalism	\$	<u>6,952.83</u>
	\$	18,048.96

FIRE ALARM OFFICE

The Central Fire Alarm Office at 1003 Turk Street is responsible for receipt of alarms and the dispatching of fire apparatus. The operation of the entire fire alarm telegraph system of San Francisco is centered in this office. Fire Alarm personnel also receive trouble complaints and dispatch repairmen in connection with emergency repairs to traffic signals, police and fire communication equipment, test defective circuits, and operate the Civil Defense air raid warning system.

Personnel assigned to the Fire Alarm Office consist of the following:

- 1 - Chief Fire Alarm Dispatcher
- 9 - Fire Alarm Dispatchers
- 4 - Senior Telephone Operators

Fire Alarm signal circuits in service, including PTT leased line to Treasure Island -----	70
In service Dept of Electricity Boxes-----	1992
Pacific Fire Extinguisher Fire Alarm Boxes with trouble signals -----	42
Pacific Fire Extinguisher Fire Alarm Boxes without trouble signals -----	10
(An increase of 4 boxes over FY 69-70) Total boxes-----	2044
Fire Boxes pulled for test including (1455) school boxes	12933
Fire Alarm Boxes out of service temporarily, relief box in service -----	215
Fire Alarm Box out of service temporary -----	77
Fire Alarm Box out of service permanent -----	12
Fire Alarm Box transfer to another circuit -----	17
New Fire Alarm Box in service -----	10
Police call boxes in service----no increase/decrease----	469

The following summarizes complaints received from the Police Department, other Municipal Agencies and private citizens concerning equipment listed below:

Fire Alarm Circuits -----	299
Fire Alarm Boxes -----	63
Police Call Box locals -----	83
Police Call Boxes -----	77
Police Teletype -----	5
Signal Registers -----	105
Civil Defense Sirens -----	4
Traffic Signals -----	1937
Miscellaneous -----	262
Total complaints -----	2892

FIRE ALARM OFFICE

The following summarizes the activities of the Central Fire Alarm Station for the Fiscal year ending June 30, 1972:

First Alarms of Fire Received and Transmitted	16,344
Second " " " "	122
Third " " " "	31
Fourth " " " "	9
Fifth " " " "	0
Still Alarms	12,427
Direct Alarms	1,510
Special Calls	<u>165</u>
(Alarms increase of 128 over Total Alarms---	30,608

Fiscal Yr. 1970-71)

Secondary Signals transmitted covering Alarms of Fire
and routine operational business of the Fire Department.
-- 145,516

This indicates an increase of 447 in comparison with statistics
for Fiscal Year 1970-71.

ACCOUNTING (ADMINISTRATION)

The Senior Accountant, under the direction of the General Manager is responsible for the Accounting (Administration) Division. The Division is composed of three Department of Electricity personnel and one Storekeeper from the Purchasing Department. In addition to Accounting functions, various administrative tasks are assigned which require a portion of the services of two additional personnel. The personnel are as follows:

1 - 1652	Senior Accountant
1 - 1650	Accountant
1 - 1630	Account Clerk
1 - 1934	Storekeeper
1 - 1446	Senior Clerk Sterographer
1 - 1424	Clerk Typist

For functional use, the Division maintains an orderly system of recording costs and revenues which are compiled and reported to management in timely periodic reports.

For cost control of labor, material, services, and equipment, the Division maintains approximately seventy cost accounts as well as accounting for individual budgetary line items. Also, the Division, during the Fiscal Year 1971-1972, compiled costs for 201 individual work orders, special jobs, and projects, a decrease of 21% compared to Fiscal Year 1970-71.

During 1971-72, 203 billings, in the amount of \$58,724, were made to cover special jobs, installation of funds, and damages to City Property. Comparison with previous year is as follows:

	<u>1971-72</u>	<u>1970-71</u>	<u>% Increase (Decrease)</u>
No Billings	203	210	(3.3) %
Amount of Billings	\$58,724	\$58,596	.2 %
Damages Billings	\$40,910	\$32,143	27.3 %
Other Billings	\$17,814	\$26,453	(32.7) %

ESTIMATED AND COMPARATIVE REVENUE

	Estimated Revenue <u>1971-72</u>	Collections - Cash Received <u>1971-72</u>	<u>1970-72</u>	% Increase (Decrease)
Damage Claims - Traffic Signals. Note A	\$15,000	\$15,039	\$16,964	(11.3)
Damage Claims - Parking Meters. Note B	3,925	3,576	4,063	(12.0)
Damage Claims - Police & Fire Alarm Facilities. Note B	2,000	4,447	2,001	122.2
Housenmoving Electrical Inspection. Note C	75	13	36	(53.9)
Total	<u>\$21,000</u>	<u>\$23,075</u>	<u>\$23,064</u>	<u>.05</u>

COMMENT

Collections include all Department of Electricity Revenue collected by this Department or another.

NOTES

- A) Recovery of damages is deposited to Road Fund.
- B) Recovery of damages is deposited to General Fund.
- C) Collections offset actual cost for each inspection of overhead line wires.



Accounting Division



Administrative help

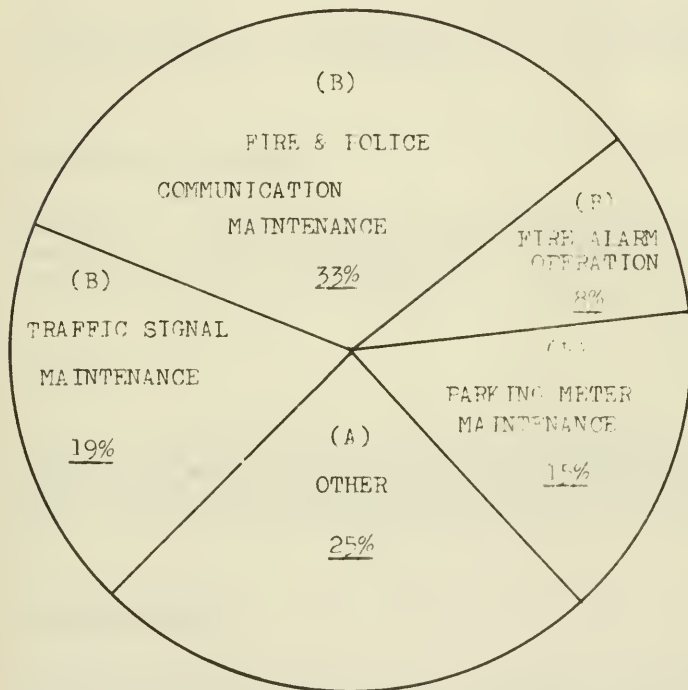
COMPARATIVE EXPENSE STATEMENT

AS OF JUNE 30, 1972

<u>Budget Description:</u>	<u>Expense 1970-71</u>	<u>Expense 1971-72</u>	<u>Allowance 1971-72</u>	<u>Balance 1971-72</u>
Permanent Salaries	\$ 511649	\$ 533246	\$ 555284	\$22038
Overtime Pay	10996	10014	9000	(1014)
Holiday Pay	6579	6893	6893	-0-
Temp Salaries	11244	8573	10000	1427
Wages	977345	1054743	1077279	22536
Contractual Serv	2821	2549	2802	253
Structures Repair	4300	1629	2248	619
Auto Repair	12315	12697	12697	-0-
Office Equip Repair	104	162	100	(62)
Reproduction Serv	635	676	550	(126)
Light Heat & Power	11523	11625	12915	1290
Telephone Serv	7790	7828	7810	(18)
Scavenger Serv	975	1061	1045	(16)
Mat & Supplies	104114	107490	107530	40
Equipment	1487	-0-	-0-	-0-
Fixed Charges	128	248	129	(119)
* Mandatory Fringe		203001	235134	32133
Serv of Other Depts	<u>5249</u>	<u>5489</u>	<u>5489</u>	<u>-0-</u>
Total Budget	<u>\$1669254</u>	<u>\$1967924</u>	<u>\$2046905</u>	<u>\$78981</u>
* Increased Budget Expense		\$ 95669		
Increased % Over 1970-71		<u>5.7%</u>		
<u>Other Description:</u>				
Interdepartment W.O.	\$ 479941	\$ 573068	\$ 805926	\$232858
Spec Proj Replace	25355	3439	3439	-0-
Equipment - O/H Res	-0-	43068	44929	1861
Installation Jobs	8931	12240	15392	3152
Private Contr Jobs	<u>7837</u>	<u>10739</u>	<u>17251</u>	<u>6512</u>
Total Other	<u>\$ 522064</u>	<u>\$ 642554</u>	<u>\$ 886937</u>	<u>\$244383</u>
Increased Other Expense		\$ 120490		
Increased % Over 1970-71		<u>23.1%</u>		
Total Budget & Other	<u>\$2191318</u>	<u>\$2610478</u>	<u>\$2933842</u>	<u>\$323364</u>
Total Increased Expense		\$ 216159		
Total Increased % Over 1970-71		<u>9.9%</u>		

Excluded from Increased Budget Expense: Mandatory Fringe Benefits
not a D/E Budget item 1970-71.

DEPARTMENT OF ELECTRICITY COST BREAKDOWN 1971-1972



(A) Cost (Reimbursed) - Special Jobs and Interdepartmental Work Orders

(B) Budget Cost

Comments

Maintenance includes all damages without offset for collections.

Fire and Police Maintenance includes: Radio Maintenance and Engineering, Electrical Overhead Construction, Teletype and Telephone Systems, Switchboard and related equipment at the Hall of Justice, and all Fire House Stations.

Administrative and overhead costs are assigned to the above functions on a pro-rata cost basis.

DEPARTMENTAL COMMITTEES

SAFETY COMMITTEE

The Department of Electricity Safety Committee, composed of eight members, convened at their regular meetings, and the minutes were recorded.

Industrial Accidents

Twelve (12) were reviewed, one (1) was ruled as Non-Preventable - Nine (9) being found Preventable - Two (2) required medical decisions.

Drives

The San Francisco Chapter of the National Safety Council expressed their appreciation to the Department of Electricity for their outstanding cooperation and support towards the annual "Dollar Membership Drive".

Bulletin Board

The Safety Bulletin Board was maintained up-to-date. All safety bulletins, magazines, newspapers, and directives were shown to members of the Safety Committee so they, in turn, could pass on the latest information received to personnel in their particular division.

At the close of business, June 28, 1972, only one (1) recommendation made by the Safety Committee was pending.

DEPARTMENTAL COMMITTEES

Retirement Committee

Our Retirement Committee consists of representatives of the various Divisions and classifications working in our Department, with a permanent treasurer and secretary, and the chairmanship rotating to the Division within which the retiree is assigned.

During the year, the Retirement Committee arranged for appropriate ceremonies honoring the below listed retirees:

<u>Name</u>	<u>Date Retired</u>	<u>Classification</u>	<u>Years of Service</u>
Velma Johnson	3-1-71	Accountant Clerk	3½
Margaret McKay	10-1-71	Sr. Tele. Operator	11½
Eldred Magner	6-1-72	Parking Meter Repairman	20

DEPARTMENTAL COMMITTEES

MOTOR VEHICLE ACCIDENT REVIEW COMMITTEE

The Department of Electricity has a Motor Vehicle Accident Review Committee which has been active since February, 1965. The Committee has three members appointed by the General Manager.

The purpose of the Motor Vehicle Accident Review Committee is the prevention of motor vehicle accidents by promoting the concept of Defensive Driving.

The committee investigated the following:

- 1) Driver's report of the accident.
- 2) Police Vehicle Accident Report.
- 3) Insurance reports, if any.
- 4) Facts based on an investigation by City representatives, if any.
- 5) Statements of witnesses, if any.
- 6) Diagrams, photographs, and any other available evidence.

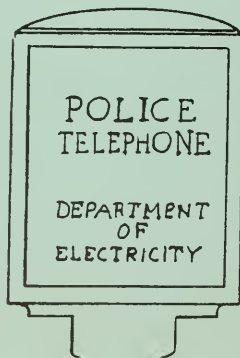
At the meeting, each accident is thoroughly discussed, and a decision is reached as to whether the accident is "Preventable" or "Unpreventable". The employee is then notified in writing and if the accident was judged "Preventable", the employee has 15 calendar days to appeal the decision of the committee by writing to the General Manager.

Fourteen (14) accidents were reviewed and eleven (11) were declared "Preventable", with three (3) "Unpreventable". The Department of Electricity employees drove forty-three vehicles approximately 280,157 miles during the Fiscal Year 1971-1972.

DEPARTMENT OF ELECTRICITY



ANNUAL REPORT ENDING JUNE 30, 1973



DOCUMENTS

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September 17, 1973

Mr. Thomas J. Mellon
Chief Administrative Officer
City and County of San Francisco
289 City Hall
San Francisco, California 94102

Dear Mr. Mellon:

In accordance with the provisions of Section 3.501 of the Charter of the City and County of San Francisco, I am pleased to submit the annual report of the Department of Electricity for the fiscal year 1972-73.

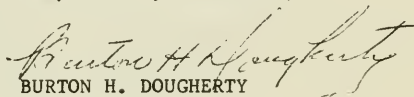
The Department continues to fulfill its responsibilities and performs its functions through organization into five divisions: Administrative (including Accounting), Electrical, Mechanical, Radio and Fire Alarm Operation.

During the past year the Department has been actively engaged in improving and upgrading the communications systems for the Police, Fire and Department of Public Health.

It is only through the dedication of the heads of each of our Divisions and of each of our employees that we have been able to provide improved communications for these Departments, and all of our employees are to be commended for their efforts.

I sincerely appreciate the help and understanding extended by you and your staff during this past year.

Respectfully submitted,

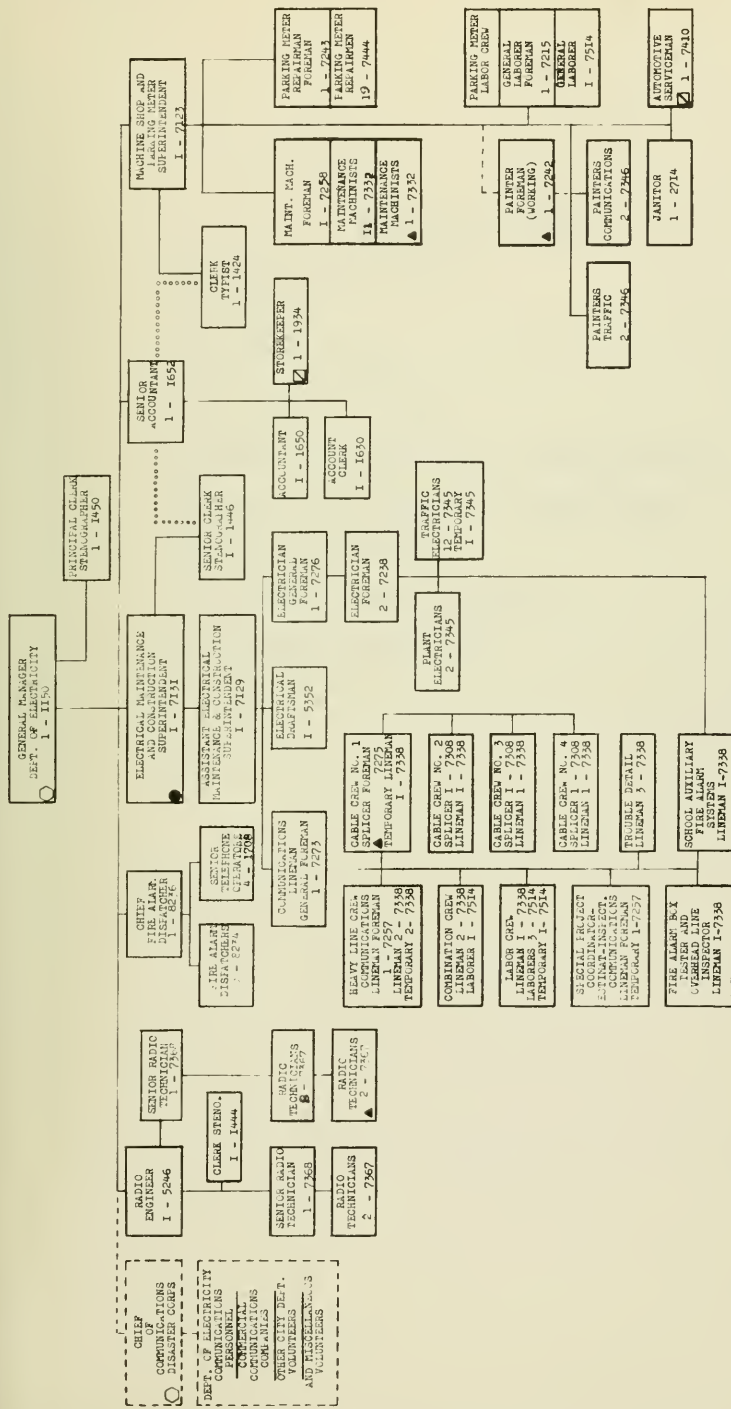

BURTON H. DOUGHERTY
General Manager
Department of Electricity

ANNUAL REPORT
DEPARTMENT OF ELECTRICITY
CITY AND COUNTY OF SAN FRANCISCO
FISCAL YEAR 1972-1973

HON. JOSEPH L. ALIOTO
MAYOR

THOMAS J. MELLON
CHIEF ADMINISTRATIVE OFFICER

BURTON H. DOUGHERTY
GENERAL MANAGER



● ACTS FOR THE GENERAL MANAGER IN HIS ABSENCE.
ASSISTS GENERAL MANAGER AS REQUIRED.

THIS POSITION REQUESTED IN OUR 1973-1974 BUDGET.

☒ AUTOMOTIVE SERVICEMAN ASSIGNED TO THIS DEPARTMENT BY THE PURCHASER OF SUPPLIES STOREKEEPER

GENERAL MANAGER FUNCTIONS AS THE CHIEF OF COMMUNICATIONS
DIVISION UNDER DISASTER COMMS OPERATIONS.

DIRECT SUPERVISION

DISASTER CORPS OPERATIONS AND

DISASTER CONFS OPERATIONS AND PROPOSED NEW SUPERVISORY POSITIONS

DIRECT SUPERVISION ON APPROVAL.

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RADIO DIVISION
SUMMARY OF ACTIVITIES AND RESPONSIBILITIES

The Radio Division, under the Department of Electricity, is responsible to:

Make necessary recommendations on all plans and specifications for construction of new installations for radio communications by any Department or agency of the City and County.

Assist and advise the Purchaser of Supplies in standardizing materials, supplies and equipment used for radio communications.

Investigate proposed expenditures for radio communication facilities.

Provide adequate representation before the Federal Communications Commission in matters affecting the use of radio. Responsible for obtaining proper construction permits and licenses issued by the F.C.C.

Make such Rules and Regulations affecting Operational Procedures and conduct, as are necessary, to bring about conformity with Federal Communications Commission requirements.

Assure that all radio equipment is installed, maintained and operated in compliance with existing laws and regulations.

Function as technical adviser to all Departments concerning radio facilities, existing or proposed.

Make recommendations for proposed radio systems and installations at the request of the Board of Supervisors, or any City or County Department.

Installation, repair, maintenance and inspection of all radio communications equipment owned and operated by the City and County, or any Department, or agency thereof.

RADIO ENGINEERING SECTION

The function of the Radio Engineering Section is project planning, project scheduling, budget development, application of communication science, liaison activities, internal and external to the Department, provide disaster communications, compliance with rules, regulations and licensing requirements of the Federal Communications Commission, as well as continuing the system design, contract preparation, requisitioning and coordination of communication requirements for City Departments.

Work accomplishments during the past Fiscal Year:

POLICE DEPARTMENT

Police Instantaneous Communications System (PIC)

The past year has seen final completion of the first phase of the system. All UHF radio control stations and satellite receivers sites for City-wide 1 net, Zone I, II and III have been installed and are operational. Two (2) major radio repeater facilities, in addition to one at CRS and eight (8) satellite locations are involved in system. The two repeater facilities were installed atop world-headquarters' building of the Bank of America and McLaren Park water tower. Over 400 portable radio units have been procured and placed in operation on this system to assist the San Francisco police patrolman in the accomplishment of their mission.

Engineering work continued on police channel 5 (VHF) satellite receiver system to provide portable radio coverage throughout the City.

Evaluated and tested various voice security devices for possible inclusion in police radio network.

Assisted Police Department in planning for and possible obtaining of portable radio transceivers for mutual law enforcement work.

Digital Communications Command and Control Project

Final technical specifications and engineering drawings were developed for the procurement of a new command and control console at the Hall of Justice. Digital communications specifications were completed and contract awards have been let. Assistance to the contractor receiving award has been provided.

Helicopters

Installation of communication equipments covering all police radio mobile frequencies, Lo-band VHF and UHF was completed for the S.F. Police Department operational helicopters, including an integrated console in each aircraft.

Police District Stations

Planned, procured and installed Lo-band, UHF radio facilities and public address amplifier system at Southeast and Park District Police Stations.

Central Radio Station (CRS)

Assisted in developing requirements and preparing specifications for an electronic security system for the Central Radio facility at Twin Peaks.

Performed numerous frequency compatibility tests to determine feasibility of placing additional transmitter and receiver facilities at CRS and on existing towers. Prepared and managed the coordination and submission of numerous radio communications applications, for system configuration changes, to the Federal Communications Commission.

FIRE DEPARTMENT

Evaluated various vendors' vehicular repeater systems for possible consideration of employing.

Planned, procured and installed new Marine Radio System for S.F.F.D. Fireboat.

Evaluated S.F.F.D.'s fire console specifications from SSDC and assisted in other aspects on new command and control system.

Conducted propagation studies on potential frequency interference with other Bay Area counties.

SHERIFF DEPARTMENT

Obtained authority to augment radio communications system. Procured and installed additional equipment, both portable and mobile.

HEALTH DEPARTMENT

Developed a draft of an Emergency Medical Services Area-Wide Concept Plan.

Held planning meetings with various levels of community health care agencies.

Submitted communications requirements to Federal Communications Commission. Conferred with both local and national levels in resolving EMS problems.

Attended numerous S.F. Medical Care Committee meetings on radio communications systems.

Assembled a preliminary field test radio system for Bio-Medical Telemetry experimentation.

Planned, engineered and installed a new radio console (Special Emergency) for Dept. of Public Health at 101 Grove Street.

Evaluated vendor-demonstrated Emergency Medical Services Communications Systems.

S.F. AIRPORT

Studied Radio Engineering Report on existing communications problems and planned a proposed solution, including cost estimates, system changes, equipment augmentation and upgrading.

Inspected licensing (FCC) status of Airport Local Government Service Radio System and conducted necessary modification to conform with current Rules and Regulations.

Planned a new airplane security radio system; obtained necessary local frequency approval and secured FCC licensing authority.

OFFICE OF EMERGENCY SERVICES

Prepared matching fund applications and reimbursement requests for communications and warning maintenance services.

Developed and implemented Radio Amateur Civil Emergency Service (RACES) Plan. Installed Repeater Station at CRS. Recruited members into Program. Issued Station Authorizations to qualifying members. Distributed mobile radio equipment to eligible members. Applied for relicensing of amateur repeater under new FCC Rules and Regulations and managed RACES Program for Office of Emergency Services.

OFFICE OF EMERGENCY SERVICES, cont.

Maintained procedural and operational status of local terminal to State Emergency Communications Network with the Office of Civil Defense (OCD) Region II.

MISCELLANEOUS

Studied technical and radio engineering data; corresponded on and reviewed with vendors proposed communications hardware.

Surveyed, planned, procured and installed radio system for S.F. City College.

Compiled a current antenna placement and frequency configuration of all radiating and receiving elements at Central Radio Station and filed with FCC a current status of all systems' receivers desensitization tests.

Represented the City and County of San Francisco at all Frequency Coordinating Meetings and Planning sessions for future UHF frequency allocations and assignments.

In Radio Communications it has been a great challenge in the past year to meet the demand for ever-increasing numbers and complexities of communication systems. We look forward to providing an even better service this coming year.

RADIO SHOP
EMPLOYEE COMPLEMENT

<u>NUMBER OF EMPLOYEES</u>	<u>TITLE</u>	<u>CLASS</u>
1	Radio Engineer	5246
2	Senior Radio Technicians	7368
8	Radio Technicians	7367
4	L.T. Radio Technicians	7367

PERCENTAGE OF LABOR ALLOCATED

1972-1973

<u>DEPARTMENT</u>	<u>% 7368</u>	<u>% 7367</u>	<u>HOURS OVERTIME</u>
Police	69.77	49.48	126
Fire	23.47	16.95	43
Dept. of Public Works	.83	1.08	1
Electricity	1.13	13.31	9
Health	1.28	1.97	16%
Supervisors	.50	.31	-
Municipal Railway	-	13.54	30
Coroner	.30	.03	-
Water Dept.	1.50	2.12	-
Harbor Police	.20	.01	-
Disaster Corps	.02	.49	-
Mayor	-	.01	-
Miscellaneous	1.0	.70	-

Hours Overtime 225%

Days (Temporary
Employees) 838

Days (Vacation
Relief) 105

RADIO DIVISION

RADIO SHOP ACTIVITIES

I Mobile Communications Units Serviced in the Radio Shop

- 1764 - Repaired.
- 206 - Vehicle Installations.
- 156 - Old Vehicle Equipment Removal.
- 81 - Miscellaneous Electronic Repairs.

II Federal Communications Commission Calibrations (Includes vehicles, portable units, and base stations)

- 2679 - Units checked and calibrated.

III Special Projects

- 1662 - Various, consisting mainly of modifications to new or existing equipment and acceptance checks of new equipment for the Police, Fire, Water, Health, and Disaster Departments.

IV Preventive Maintenance Services

- 293 - Various Locations.

V Departmental Services (other than preventive maintenance at the following locations)

POLICE DEPARTMENT

- 205 - Hall of Justice.
- 181 - District Base Stations (Police Stations)
- 35 - Central Radio Station.
- 16 - Bernal Heights Radio Station.
- 5 - Various Pawn Shops.

FIRE DEPARTMENT

- 72 - Central Fire Alarm Station.
- 27 - Central Radio Station.
- 55 - Secondary Base Stations (Fire Houses, other Battalion or Division Houses).
- 54 - District Base Stations (Battalion or Division Headquarters).
- 250 - Heavy Apparatus Field Repairs.
- 44 - Electronic Door Opener Repairs.
- 10 - Field Repairs to (2) Fire Boats.

RADIO DIVISION

Municipal Railway

- 1222 - Repairs to Motor Coaches and Trolley Coaches.
- 33 - Base Station Repairs.
- 9 - Central Control Repairs.
- 21 - Car Barn P.A. System Repairs.
- 551 - Miscellaneous radio checks of motor coaches.

Water Department

- 4 - Repairs at Newcomb Street Yard.
- 2 - Repairs at Bernal Heights Radio Station.
- 1 - Repairs at Central Radio Station.
- 14 - Repairs at Mason Street Control and Lake Merced.

Health Department

- 1 - 101 Grove Street - Monitor Receiver.
- 59 - Repairs to Ambulances.

Department of Electricity

- 6 - Central Fire Alarm Station.
- 7 - Central Radio Station.
- 3 - 901 Rankin Street.

Coroner

- 1 - Repairs to Autopsy Room Recording System.

Housing Police

- 1 - Monitor Receiver - Hunter's Point Station.

Department of Public Works

- 5 - Repairs Central Radio Station.
- 6 - Repairs - Army Street Consoles.

RADIO DIVISION

Emergency Services

- 2 - Hall of Justice - State Local Government Net.
- 1 - Central Radio Station - 6 meter repeater.

Sheriff

- 1 - Hall of Justice - County Prison consolette.

City Hall

- Supervisors P.A. System
- 5 - Repairs or adjustments.

RADIO DIVISION

MOBILE TWO-WAY RADIO UNITS
SERVICED BY RADIO SHOP

<u>Department</u>	<u>No. of Radio Equipped Vehicles or Portables</u>	<u>Total Radios Maintained</u>
<u>Police</u>		
Cars and Trucks	322	
Solo Motorcycles	90	
Servicar Motorcycles (including scooters)	139	
Portables (Low Band, High Band and UHF)	491	
Command Car	1 (8 radios)	
Helicopters	2 (6 radios)	1056
<u>Fire</u>		
Cars and Apparatus	186	
Fire Boats	2 (3 radios)	
Command Car	1 (5 radios)	
Portables (UHF)	52	
Portables (Citizen Band)	3	
Portables (Paging Rcvr.)	4	
Portables (VHF)	1	254
<u>Water Department</u>		
Cars and Trucks	112	
(includes 1 Game Warden's Car)		
Portables (Low Band)	2	
Portables (Paging Recvr.)	4	118
<u>Dept. of Public Works</u>		
Cars and Trucks	53	
Portables (Citizen Band)	4	57
<u>Municipal Railway</u>		
Cars and Trucks	59	
Trolleys	79	
Motor Coaches	503	641

RADIO DIVISION

<u>Department</u>	<u>No. of Radio Equipped Vehicles or Portables</u>	<u>Total Radios Maintained</u>
<u>Department of Electricity</u>		
Cars and Trucks	32	
Portables (Citizen's Band)	2	34
<u>Health Department</u>		
Ambulance	14	
Station Wagons	1	
Car	1	
Portables	11	
Portable (Paging Rec)	1	28
<u>Special Police</u>		
Cars	23	
Portables	3	26
<u>Emergency Services</u>		
Cars	3 (4 radios)	
Communication Van	1 (13 radios)	
Portables (Citizen Band)	3	20
<u>Coroner</u>		
Cars and Ambulances	3	3
<u>Harbor Police</u>		
Cars	2	
Servicar Motorcycles	2	4
<u>Sheriff</u>		
Cars	15	
Bus	4	
Portables	5	24
<u>Park and Recreation</u>		
Cars	8	
Trucks	3	
Portables (Citizen Band)	3	14
<u>Mayor's Office</u>		
Cars	2	2
<u>Housing Police</u>		
Cars	4	
Portables	3	7
<u>City College</u>		
Portables	6	6

RADIO DIVISION

<u>Department</u>	<u>No. of Radio Equipped Vehicles or Portables</u>	<u>Total Radios Maintained</u>
Cars	3	3
<u>Police Commission</u>	1	1
Cars	4	4
<u>Fire Commission</u>		
Cars	1	1
<u>Chief Administrative Officer</u>		
Car	1	1
<u>District Attorney</u>		
Car	1	1
<u>*Federal Bureau of Investigation</u>		
Cars	3	3
<u>*Society for Prevention of Cruelty to Animals</u>		
Cars and Trucks	8	8
Total mobile and portable radios		<u><u>2316</u></u>

*Federal Communications Commission calibration Only.

RADIO DIVISION

Base Stations Maintained

Police Department

At Central Radio Station	6 low band units 3 high band units 2 UHF units 1 microwave terminal
At Bernal Heights Station	2 low band units
At Hall of Justice	2 high band units 1 UHF unit 1 microwave terminal
At Police Stations, Pistol Range and Stables	9 low band units 9 UHF units
At Bank of America	1 UHF unit

Fire Department

At Central Radio Station	2 low band units 2 high band units 1 microwave terminal
At Central Fire Alarm Station	1 high band unit 1 microwave terminal
At Fire Houses, and Airport	16 low band units

Emergency Services

At Emergency Operating Center	2 low band units
At Hall of Justice	1 high band unit
At Central Radio Station	1 - 6 meter unit

Water Department

At Central Radio Station	2 low band units 1 UHF unit
At Bernal Heights Station	2 low band units
At Lake Merced	1 low band unit

RADIO DIVISION

Municipal Railway

At Central Radio Station	1 low band unit
At Twin Peaks Blockhouse	2 low band units
At Forest Hill Blockhouse	4 low band units

Health Department

At 101 Grove Street	1 high band unit
At San Francisco General Hospital	2 high band units
At Central Radio Station	1 high band unit
At Laguna Honda Hospital	2 high band units

Harbor Police

At Ferry Building	1 low band unit
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Sheriff

At Hall of Justice County Prison	1 high band unit
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Department of Public Works

At Central Radio Station	2 low band units
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Department of Electricity

At Central Radio Station	2 high band units
At Central Fire Alarm	1 high band unit
At Bernal Heights	1 high band unit
At 901 Rankin	1 high band unit

Park and Recreation

At McLaren Lodge	1 high band unit
At Maintenance Yard Golden Gate Park	1 high band unit

Total

91

ELECTRICAL DIVISION
SUMMARY OF WORK PERFORMED

CONSTRUCTION, MAINTENANCE AND REPAIR OF:

Central Fire Alarm Station: includes the standby generator, rectifies main batteries and all fire and communications circuits.

Circuits from the Central Fire Alarm Station: to 2043 fire alarm boxes located throughout the city. The fire alarm boxes are field tested every 60 days.

Auxiliary Fire Alarm Systems in 120 Public Schools: are inspected and tested once a month.

Police Department Emergency Telephone System: consisting of a two position switchboard and circuits to 469 police call boxes located throughout the city and to 79 phones located in the Hall of Justice and in various Bureaus and Stations.

Bank Holdup Alarms, Private and local Telephone Systems and Communications, Alarm, and Signal Systems located in the Hall of Justice.

Police Teletype System: including two teletype transmitters and a control console in the Hall of Justice with circuits to 22 printers in the Hall of Justice and in various bureaus and stations in the city.

Traffic Signals, at 844 intersections, together with their associated control cables.

Air Raid Sirens: at 53 locations throughout the city and their remote control equipment.

Auxiliary Fire Alarm Systems: This Department approves, tests and supervises the connection of auxiliary fire alarm systems to the municipal fire system by the Auxiliary Companies legally authorized by franchise to engage in the auxiliary fire alarm business in San Francisco.

Overhead lines and underground cable system: This Department maintains all overhead and underground facilities relating to Fire and Police Communications throughout the city.

School Auxiliary Fire Alarm Systems: In cooperation with the Board of Education, the Electrical Division tests and accepts all new auxiliary fire alarm installations in public schools including the testing of sprinklers, heat and smoke detectors and master stations.

ELECTRICAL DIVISION

PERMANENT PERSONNEL

- 1 - 7131, Electrical Maintenance and Construction Superintendent
- 1 - 7129, Assistant Electrical Maintenance and Construction Superintendent
- 1 - 5352, Electrical Draftsman
- 1 - 7273, Lineman General Foreman
- 1 - 7257, Lineman Foreman
- 2 - 7308, Cablesplacers
- 13 - 7338, Lineman
- 1 - 7276, Electrician General Foreman
- 2 - 7238, Electrician Foreman
- 14 - 7345, Electricians
- 3 - 7514, Laborers

Days worked by temporary personnel in the fiscal year due to work orders, special projects and retirements:

411	Lineman
211	Cablesplicer Foreman
236	Laborer
202	Cablesplicer

FIRE ALARM SYSTEM

Maintained the Fire Alarm System in the Central Fire Alarm Station and at 48 fire stations, 2 pumping stations, 2 tanks, the Bureau of Equipment and the Fire College and maintained the communications systems connecting these facilities.

Replaced or repaired in Fire Stations:

127	Registers
160	Bells
41	Automatic Lights
23	Relays
5	Intercommunication Systems

ELECTRICAL DIVISION

In the fiscal year this department installed 10 new and relocated 3 Fire Alarm boxes.

Responded to 58 trouble complaints to the public school auxiliary fire system and cooperated with school personnel on repairs. This included resetting master stations and also resetting the master street box.

Responded to and made repairs to 398 cases of trouble on Underground and Overhead Circuits. This included the installation of a temporary overhead cable line in the vicinity of Mission and Bosworth Streets due to a street cave in.

Repaired 42 fire alarm boxes at various locations throughout the city.

Transferred Department of Electricity facilities to new poles at 135 locations.

Answered 17 complaints to Outside local fire alarm equipment located in newspaper offices, Coast Guard Headquarters, and at various other locations.

Maintained and made monthly tests on auxiliary fire alarm stations located in the Broadway tunnel.

Maintained and tested auxiliary fire alarm systems and master fire boxes at the following locations:

Hunters Point Navy Yard	U.C. Hospital
Port Authority	Department of Public Works
Elkton Shops (Muni R.R.)	Kirkland Yard (Muni R.R.)

Relocated Fire Alarm boxes and conduit at the request of the Department of Public Works at

Annie & Market	8th & Market
Topaz & Oro	

Abandoned Department of Electricity ducts and relocated cables in the PT & T ducts at the request of the Department of Public Works to provide clearance for a high pressure water main on Market near Battery.

Built overhead line to and installed fire alarm master box at John Drew School at 50 Pomona Street. Tested the auxiliary with representatives from Department of Public Works.

ELECTRICAL DIVISION

POLICE DEPARTMENT

Maintained and repaired at the Hall of Justice the Police Department switchboard with 79 phones inside the Hall of Justice and 469 phones located throughout the city.

Chief of Police private telephone system.

City and County Jail, visitors' phones.

Police Department teletype system.

Auxiliary fire alarm system.

Bank alarm control panel.

Cleared 75 cases of trouble on police telephone circuits.

Replaced 4 police call boxes damaged by vehicles.

CENTRAL RADIO STATION

Serviced and conducted weekly tests on the two Emergency Generators.

Inspected the radio towers and made minor repairs as necessary.

Relayed tower lights and serviced auxiliary equipment.

Visually checked towers and Radio Station perimeter lights nightly.

MAYOR'S OFFICE OF EMERGENCY SERVICES

Serviced and maintained warning sirens at 53 locations in the city.

Removed 2 sirens for repair.

MISCELLANEOUS WORK PERFORMED

Prepared plans and estimates for:

Installations of master box and auxiliary fire alarm connections to various schools under construction.

MISCELLANEOUS WORK PERFORMED, cont.

Surveyed and checked Department of Electricity underground facilities and marked locations on the surface of the street in connection with numerous sewer, water, street improvement, PT & T and PG & E projects.

Rearranged Department of Electricity circuits on joint poles as required due to installation of overhead cable by Viacom International Inc., formerly T.V. Signal Corp.

Prepared plans and estimates for installation of Municipal Fire Alarm system in New Galewood Subdivision off Clarendon Blvd.

FIRE DEPARTMENT COMMAND AND CONTROL PROJECT

Electrical Division personnel were assigned to the City Command and Central Committee established by the Fire Department to work with the consulting firm System Science Development Corporation responsible for preparation plans and specifications for the New Computerized Command and Central Project.

ELECTRICAL DIVISION SUMMARY OF TRAFFIC SIGNAL MAINTENANCE

The Traffic Signal Maintenance Section responded to a total of 1826 complaints of malfunctioning traffic signals requiring immediate attention. These complaints were received from various Governmental Agencies, both State and Municipal, from private citizens, and from Department of Electricity personnel. This represents a further reduction from the previous year, (1937), due to our program of group relamping and other preventative maintenance.

On June 30, 1973, 844 signalized intersections were being maintained, an increase of 23 new intersections from the previous year.

These were:

Folsom & Hawthorne	Jackson & Sansome
Polk & Sacramento	Arguello & Sacramento
Polk & Pacific	Fulton & Webster
California & Scott	McAllister & Webster
15th & Church	Gough & Sacramento
18th & Diamond	Gough & Washington
5th & Ellis	Gough & Jackson
5th & O'Farrell	Gough & Pacific
Clay & Front	Gough & Broadway
	Howard & Beale
Sansome & Pacific	Castro & DuBoze
Kearney & Jackson	Aleman & Congdon

FIELD OPERATIONS

Checked Operations -----	665
Controllers Changed -----	518
Relays Changed -----	554
Coordination Units Changed -----	39
Detector Amplifiers Changed -----	15
Intersections Mass Relamped -----	821
Master & Cascade AM Offsets Checked -----	937
Master & Cascade PM Offsets Checked -----	915
Dial Units Changed -----	374
Damaged Conduit & Wiring Repaired -----	396
Pedestrian Push-Buttons Changed -----	71
Detector Pads Changed, 6 ft. -----	53
Steel Pole, 10 ft. Changed -----	21
Marbelite Pole, 10 ft. Changed -----	25
Signal Heads Changed -----	263
Signal Heads Realigned -----	364
Signal Lens & Reflectors Replaced -----	172
Visors Replaced -----	310

ELECTRICAL DIVISION

FIELD OPERATIONS

Visors Repaired -----	350
Flashers Changed -----	44
Controller Cabinet Replaced -----	21
Controller Cabinet Repaired -----	67
Pedestrian Timer Replaced -----	37
Pedestrian Signals Repaired -----	105
Checked Timing & Placed Timing Cards ---	327
Coordination Units Repaired -----	75

LAMP, TUBE TRANSFORMER REPLACEMENT

WAIT Tube -----	51
WALK Tube -----	151
DON'T WALK Tube -----	37
Transformers -----	25
TURN Tube -----	4
67 Watt Lamps -----	16,400
Grid Tubes -----	103

SHOP OPERATIONS

Controllers Serviced -----	501
Dial Units Serviced -----	367
Relays Serviced -----	512
Pedestrian Timers Serviced -----	69
Flashers Serviced -----	56
Signal Heads Serviced -----	178
Coordination Units Serviced -----	87
Cabinets Rebuilt -----	40

Associated Traffic Control equipment was maintained as follows: Illuminated signs of various types, school crossing beacons, 21 master controllers with their cascade relay stations, and many other auxiliary traffic control devices.

Signals were checked weekly at the intersections preempted by cable cars, Freeway Detour Signs bi-weekly, and the Broadway Tunnel signals monthly.

Many time clocks regulating Master Controllers, Beacons, No Left Turn signs, etc., were adjusted the last Sunday in April and the last Sunday in October to conform to Daylight Saving Time.

ELECTRICAL DIVISION

Alteration and construction work in the amount of \$21,463 was completed for Department of Public Works, Traffic Engineering Section, and for contractors when building construction required the relocation or modification of Traffic Signals temporarily.

These Work Orders and Special Jobs included:

Fell and Laguna Sts. NW corner. Installed special optically programmed 3M signal heads for test.

23rd and Potrero. Installed new pedestrian signals to provide an additional crosswalk for 23rd St.

Pine and Front. Restored signals to original locations on completion of building construction.

Montgomery St. from Sutter to California and Pacific and Grant. Modified signals to provide a "scramble" pedestrian movement.

Fulton St. from 6th Ave. to 43rd. Converted pedestrian signals to Flashing "Don't Walk" operation.

Sutter and Powell. Replaced signals in their original locations upon completion of building construction.

Stockton at Post & Sutter. Replaced signals in their original locations upon completion of building construction.

Ocean and Phelan. Modified signals to provide a special pedestrian movement for disabled City College students in wheelchairs.

Geary and Masonic. Relocated the Master Controller to facilitate construction of the underpass at this location.

Market, Castro and 17th Sts. Modified signals to assist in the rerouting of Municipal Railway tracks due to station construction.

Mission and Geneva. Replaced obsolete traffic actuated controller with a pretimed unit.

California and Jones. Relocated signals to construction fence for new building.

Stockton and O'Farrell. Relocated signals to construction fence for new building.

ELECTRICAL DIVISION

Market, 17th and Castro. Replaced traffic actuated controller with a special pretimed unit due to station construction.

Market at Diamond and Eureka. Replaced traffic actuated controller with a special pretimed unit due to station construction.

Turk and Webster. Relocated SW signal due to construction.

Fillmore at Sutter and Post. Relocated SW signal due to construction.

Washington and Montgomery. Relocated conduits for street construction.

Ocean Ave., Howth to Aptos. Installed new Minitrol coordination units and modified master.

24th and Potrero. Rerouted conduit for building construction.

Army at signal system. Assisted contractor in replacing obsolete master and intersection controllers.

Bush and Larkin. Relocated signal due to building construction.

Monterey, Circular, and Freeway. Replaced traffic actuated controller with a pretimed unit.

Various downtown locations. Removed surplus signal indications and added others to facilitate the one way street changes.

Various locations. Replaced existing signals with new 12" indications to improve visibility.

Modified controller locks and installed wire screens in pedestrian signals to combat vandalism.

MECHANICAL DIVISION
MANUFACTURE, MAINTENANCE &
REPAIR

Under the general administrative direction of the General Manager, the Machine Shop and Parking Meter Superintendent directs and supervises all maintenance and repair to all mechanical equipment under the jurisdiction of the Department of Electricity. New parts are manufactured as necessary. The equipment includes the following:

- 1) 2043 Fire Alarm Boxes.
- 2) 469 Police Patrol Boxes.
- 3) 844 Traffic Signal Intersections.
- 4) All mechanical equipment at the Central Fire Alarm Station, Central Radio Station, Hall of Justice Communication's Room, and the Plant at 901 Rankin Street, including 5 emergency gas driven generators at the above and Youth Guidance Center, Bernal Heights.
- 5) 13,708 Parking Meters.
- 6) 53 Emergency Warning Sirens.
- 7) Fifty Six (56) pieces of gas engine driven equipment - 49 mobile and 7 stationary. The repair of the above equipment was done at the Purchasing Shops under the direction and control of the Machine Shop & Parking Meter Superintendent. The servicing of this equipment was done by one Automotive Serviceman at 901 Rankin Street.
- 8) The maintenance of three Departmental Buildings: Plant, 901 Rankin St., Central Fire Alarm Station, 1003 Turk St., and Central Radio Station, Twin Peaks was directed by the Machine Shop and Parking Meter Superintendent, though the majority of the work was accomplished by the Department of Public Works or through contractual services.

Manufactured:

- 1) Three-fold non-interfering Fire Alarm Boxes were manufactured to replace obsolete Fire Alarm Boxes in the new Underground Districts. New and replacement parts for Fire Alarm Boxes, Police Patrol Boxes, Registers, Instruments, and Parking Meters, were manufactured in the Machine Shop as needed.

MECHANICAL DIVISION

- 2) Several hours were used in planning and experimenting with new parking meters and installations. Parking meters were removed, relocated and reinstalled as necessary to accomodate Bart and construction sites. There are 20 off-street parking lots with a total of 598 parking meters and stalls. The total installation of parking meters of 13,708.

We decreased the jamming of meters approximately two to four thousand a month. This was accomplished by having four plain clothes officers working with us for three months. Approximately 200 arrests were made and fines of \$100 to \$250 were levied.

As a result of a meeting with the Mayor and Merchants' Association we were allowed four additional Parking Meter Repairmen and two vehicles. We also will have the full time services of three police officers working with us on parking meter jammers. This will improve the parking meter system resulting in more available parking spaces and additional revenue.

- 3) Special mechanical fixtures and apparatus were designed and manufactured to produce functional improvement. Miscellaneous tool and die, experimental projects and equipment tests were undertaken and completed.

Maintenance & Repair

Necessary and vital repairs were made to all mechanical equipment.

Painting

Fire Alarm Boxes, Police Patrol Boxes, Traffic Signals, Controllers, Parking Meters and other miscellaneous equipment were prepared and painted in the shop and field. The sirens were not painted due to a shortage of personnel. We are on a four to five year painting cycle rather than a two year cycle recommended for some of the above equipment.

Other Duties

Data was compiled for the annual budget, necessary specifications for machinery and automotive equipment were written and requisitions for equipment and supplies were made. Reports and correspondence related to the mechanical division were processed.

Records on all mechanical equipment and parking meter field and shop services were kept.

MECHANICAL DIVISION

The work was accomplished by the following personnel:

- 1 - Machine Shop & Parking Meter Superintendent
- 1 - Maintenance Machinist Foreman
- 11 - Maintenance Machinists
- 1 - Parking Meter Repairman Foreman
- 15 - Parking Meter Repairmen
- 4 - Painters
- 1 - General Laborer Foreman
- 1 - Laborer
- 1 - Clerk Typist
- 1 - Janitor
- 1 - Automotive Serviceman

38 - Total

PERCENT OF PERSONNEL ALLOCATED * VARIOUS DIVISIONS

No.	Class	Title	Fire	Police	Traffic	Radio	Parking Meters	Air Raid & O.D.	Misc.
1	7123	Machine Shop & Parking Meter Supt.	23	10	15	5	39	1	7
1	7258	Maintenance Machinist	35	10	10	10	25	1	9
11	7332	Maint. Machinists	30	5	10	8	41	1	5
1	7215	Gen. Laborer Fore.					100		
1	7514	Gen. Laborer					100		
1	7243	Parking Meter Repairman Foreman					100		
15	7444	Parking Meter Repairman					100		
4	7346	Painter	2-70	2-15	2-100	2-3	2-7		2-5
1	7410	Automotive Serviceman	30	15	25	10	15		5
1	1424	Clerk Typist	5	4		1	88		2

Temporary personnel were hired for vacation relief and special projects, as follows:

7332 Maint. Machinist - 20 days 7444 Parking Meter Repairmen - 190 days

MECHANICAL DIVISION
SUMMARY OF ACTIVITIES

	<u>Total Number</u>
Manufactured Fire Alarm Boxes, parts and related equipment	4,176
Repaired Fire Alarm Boxes, parts and related equipment	3,838
Manufactured Police Call Boxes, parts and related equipment	479
Repaired Police Telephones and related Communications equipment	283
Manufactured Traffic Signal Parts and Special Tools	1,564
Repaired Traffic Signals, parts and related equipment	522
Manufactured and repaired miscellaneous radio equipment items	1,090
Miscellaneous items manufactured and repaired for Plant and vehicular equipment	1,135
Manufactured jigs, fixtures, tools, stamping dies and patterns for Machine Shop production and maintenance work	61
Manufactured miscellaneous parking meter parts	18,783
Repaired parking meter cases, mechanisms, timers, and miscellaneous parts	20,460
All Registers and Emergency Generator serviced weekly; all Tappers, Jokers and Repeaters serviced monthly at the Central Fire Alarm Station, 1003 Turk Street	2,094
Emergency Warning Sirens completely overhauled	3

MECHANICAL DIVISION

PAINTING - FIELD AND SHOP

The following items have been prepared, primed and finish coated:

FIRE ALARM SYSTEM

Fire Alarm Boxes - Field and Shop	1,021
Fire Alarm Box Posts, Bases, Inner Shells, Sockets, Movement Housings, etc. - Field and Shop	1,256

POLICE COMMUNICATION

Police Call Boxes - Field and Shop	118
Miscellaneous items - Shop	42

TRAFFIC SIGNALS

Vehicular Signals - Field	759
Signal Controllers - Shop	138
Signal Controllers - Field	138
Signal Controllers, Doors, Posts, Bases, etc. - Shop	149
Walk-Wait Pedestrian Signals - Field	199
Walk-Wait Pedestrian Signals - Shop	17
Push Button Pedestrian Signals - Field and Shop	74
Signal Posts, Poles, etc. - Field and Shop	308
Traffic Signal Visors and Louvers - Field and Shop	508

RADIO DIVISION

Miscellaneous Radio Equipment - Shop	148
--------------------------------------	-----

PARKING METERS

Parking Meter Cases - Shop	320
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MISCELLANEOUS PAINTING AT PLANT, 901 RANKIN ST.
CENTRAL FIRE ALARM, 1003 TURK STREET, AND CENTRAL
RADIO STATION, TWIN PEAKS

Cabinets, Siren Parts, Ladders (oiled-shellacked), Brackets,
Radio Equipment, Parts, Aluminum Strips, Redwood Moulding,
touch-up, etc.

MECHANICAL DIVISION

SUMMARY OF ACTUAL ANNUAL REPAIRS TO PARKING METERS

Fire Alarm Box Glass Replaced	15
Intentionally Jammed Meters Cleared	141,060
Cases Cleaned	633
Damaged Meters Removed	204
Exchange Heads	321
Exchange Mechanisms	5,096
Exchange Mechanisms for Cleaning	16
Exchange Timers	1,709
Hoods Removed	1,111
Lock Open Coin Doors	76
Loose Heads	260
Loose Mechanisms	24
Mechanical Adjustment Mechanisms	8,741
Mechanical Adjustment Cases	1,213
Meters Installed	226
Meters Removed from Service	349
O.K. Requested Inspections	1,601
Install Glass Gaskets	71
Replace Coin Glass	677
Replace Coin Lock	42
Replace Parts to Cases	2,848
Replace Parts to Mechanisms	832
Replace Signal Glass	975
Stuck Coins	4,609
Service Coin Door	27
Service Coin Lock	899
Stuck Indicators	709
Stuck Signals	625
Stuck Timers	1,290
Unwound Main Springs	5,048
Winding Hole Plugged	301
Parking Meter Heads Replaced	1,041
Checked for Traffic Fines Bureau	5,725
Machine Shop Repairs on Cases	2,146
Mechanisms Cleaned and Overhauled	8,907
Parking Meter Posts Straightened	2,147
" " " Removed	224
" " " Relocated	82
" " " Installed	259
" " " Replaced	675
" " " Reset	956
Parking Meter Complaints received by Telephone:	
Tax Collector's Office	4,066
Police Department	2,455
Total	210,220

MECHANICAL DIVISION
INVENTORY OF PARKING METERS
AS OF JUNE 30, 1973

<u>District</u>	<u>Number</u>	<u>Number in Off-Street Parking Lots</u>
A	865	61
B	981	119
C	837	
D	859	40
E	899	
F	738	
G	857	
H	1,132	82
I	952	
J	915	20
K	796	72
L	838	
M	872	
N	733	87
O	<u>836</u>	<u>117</u>
Total	13,110	598

13,110
598

Grand Total . . . 13,708

The following are material costs:

Traffic Damages to Parking Meters	\$ 13,130.45
Vandalism	\$ 10,819.78
	<u>\$ 23,950.23</u>

FIRE ALARM OFFICE

The Central Fire Alarm Office at 1003 Turk Street is responsible for receipt of alarms and the dispatching of fire apparatus. The operation of the entire fire alarm telegraph system of San Francisco is centered in this office. Fire Alarm personnel also receive trouble complaints and dispatch repairmen in connection with emergency repairs to traffic signals, police and fire communication system, test defective circuits and initiating restorative actions, monitor and operate the Civil Defense siren warning system.

Personnel assigned to the Fire Alarm Office consists of the following:

- 1 - Chief Fire Alarm Dispatcher
- 9 - Fire Alarm Dispatchers
- 4 - Senior Telephone Operators

FIRE ALARM OPERATIONS

Fire Alarm signal circuits in service, including 1 PTT leased line to Treasure Island	70
In service Department of Electricity Boxes	1991
Pacific Fire Extinguisher Fire Alarm Boxes with trouble signals	40
Pacific Fire Extinguisher Fire Alarm Boxes without trouble signals	11
(A decrease of 2 boxes from FY 71-72) Total .	2042
Fire Boxes pulled for test including (1446) school boxes	11,670
Fire Alarm Boxes out of service temporarily, relief box in service	174
Fire Alarm Box out of service temporarily	81
Fire Alarm Box out of service permanently	16
Fire Alarm Box transfer to another circuit	4
New Fire Alarm Box in service	10
Police call boxes in service - no increase/decrease	469

FIRE ALARM OPERATIONS, cont.

The following summarizes complaints received from the Police Department, other Municipal Agencies and private citizens concerning equipment listed below:

Fire Alarm Circuits	398
Fire Alarm Boxes	81
Police Call Box Locals	75
Police Call Boxes	140
Police Teletype	6
Signal Registers	127
Civil Defense Sirens	3
Radio Equipment	14
Traffic Signals	1833
Miscellaneous	251
Total Complaints	29,928

The following summarizes the activities of the Central Fire Alarm Station for the Fiscal Year ending June 30, 1973:

First Alarms of Fire Received and Transmitted	16,033
Second " " " " " "	104
Third " " " " " "	31
Fourth " " " " " "	6
Fifth " " " " " "	2
Still Alarms	12,762
Direct Alarms	1,486
Special Calls	92

(Alarms decrease of 92 from
Fiscal Yr. 1971-72)

Total alarms . 30,516

Secondary Signals transmitted covering Alarms of
Fire and routine operational business of the Fire
Department 146,770

This indicates an increase of 1254 in comparison with
statistics for Fiscal Year 1971-72.

ACCOUNTING (ADMINISTRATION)

The Senior Accountant, under the direction of the General Manager is responsible for the Accounting (Administration) Division. The Division is composed of three Department of Electricity personnel and one Storekeeper from the Purchasing Department. In addition to Accounting functions, various administrative tasks are assigned which require a portion of the services of two additional personnel. The personnel are as follows:

- 1 - 1652 Senior Accountant
- 1 - 1650 Accountant
- 1 - 1630 Account Clerk
- 1 - 1934 Storekeeper
- 1 - 1446 Senior Clerk Stenographer
- 1 - 1424 Clerk Typist

For functional use, the Division maintains an orderly system of recording costs and revenues which are compiled and reported to management in timely periodic reports.

For cost control of labor, material, services, and equipment, the Division maintains approximately seventy cost accounts as well as accounting for individual budgetary line items. Also, the Division, during the Fiscal Year 1972-1973, compiled costs for 215 individual work orders, special jobs, and projects, an increase of 7% as compared to Fiscal Year 1971-1972.

During 1972-1973, 201 billings, in the amount of \$63,418 were made to cover Special Jobs, Installation Funds, and damages to City Property. Comparison with previous year is as follows:

	1972-73	1971-72	% Increase (Decrease)	
No. Billings	201	203	(1.0)	%
Amount of Billings	\$63,418	\$58,724	8.0	%
Damages Billings	\$40,856	\$40,910	(.13)	%
Other Billings	\$22,562	\$17,814	26.7	%

ESTIMATED AND COMPARATIVE REVENUE

	Estimated Revenue <u>1972-73</u>	Collections - Cash Received <u>1972-73</u>	<u>1971-72</u>	& Increase (Decrease)
Damage Claims - Traffic Signals. Note A	\$9,000	\$21,274	\$15,039	41.5
Damage Claims - Parking Meters. Note B	1,972	3,161	3,576	(11.6)
Damage Claims - Police & Fire Alarm Facilities. Note B	4,000	4,388	4,447	(1.3)
Housemoving Electrical Inspection. Note C	<u>28</u>	<u>14</u>	<u>13</u>	7.7
Total	\$15,000	\$28,837	\$23,075	24.97
	<u><u> </u></u>	<u><u> </u></u>	<u><u> </u></u>	

COMMENT

Collections include all Department of Electricity Revenue collected by this Department of another.

NOTES

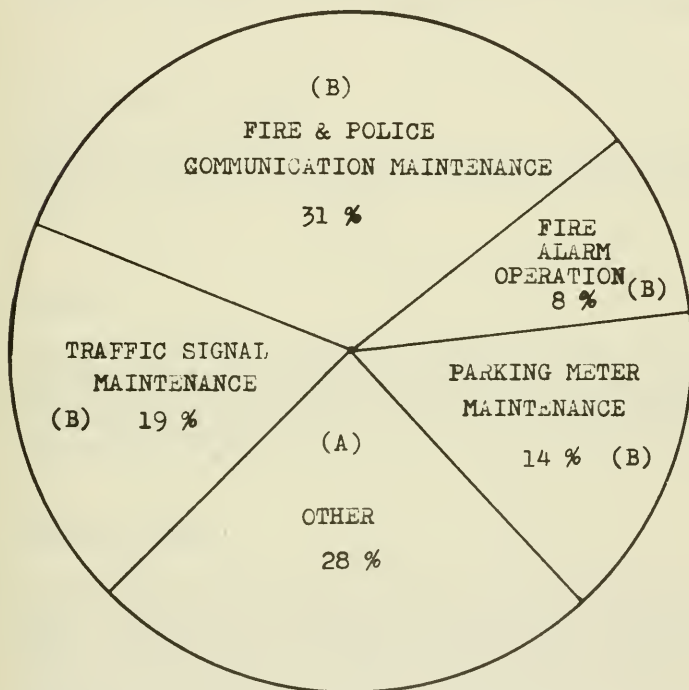
- A) Recovery of damages is deposited to Road Fund.
- B) Recovery of damages is deposited to General Fund.
- C) Collections offset actual cost for each inspection of overhead line wires.

COMPARATIVE EXPENSE STATEMENT

AS OF JUNE 30, 1973

<u>Budget Description:</u>	<u>Expense</u> <u>1971-72</u>	<u>Expense</u> <u>1972-73</u>	<u>Allowance</u> <u>1972-73</u>	<u>Balance</u> <u>1972-73</u>
Permanent Salaries	\$ 533246	\$ 511608	\$ 551835	\$ 40227
Overtime Pay	10014	10643	9000	(1643)
Holiday Pay	6893	7165	7165	0
Temp Salaries	8573	6444	9000	2556
Wages	1054743	1183316	1187370	4054
Contractual Serv	2549	2816	3366	550
Structures Repair	1629	0	0	0
Auto Repair	12697	14160	13975	185
Office Equip Repair	162	344	125	219
Reproduction Serv	676	633	600	33
Light Heat & Power	11625	11894	11080	(814)
Telephone Serv	7828	7829	7905	76
Scavenger Serv	1061	1076	1045	(31)
Mat & Supplies	107490	105981	108380	2399
Equipment	0	6037	6155	118
Fixed Charges	248	251	280	29
Mandatory Fringe	103001	229993	240882	10889
Serv of Other Depts	5489	6451	6451	0
Total Budget	<u>1967924</u>	<u>2106641</u>	<u>2164614</u>	<u>57973</u>
Increased Budget Expense		138717		
Increased % Over 1971-72		<u>7.05%</u>		
<u>Other Description</u>				
Interdepartment W.O.	407823	725485	1087249	361764
Equip O/H Reserve	43068	58857	81390	22533
Installation Jobs	12240	5998	7122	1124
Private Contr Jobs	<u>10739</u>	<u>11234</u>	<u>11438</u>	<u>204</u>
Total Other	<u>473870</u>	<u>801574</u>	<u>1187199</u>	<u>385625</u>
Increased Other Expense		327704		
Increased % Over 1971-72		<u>69.2%</u>		
Total Budget & Other	<u>2441794</u>	<u>2908215</u>	<u>3377478</u>	<u>469263</u>
Total Increased Exp		466421		
Total Increased % Over 1971-72		<u>19.1%</u>		

DEPARTMENT OF ELECTRICITY COST BREAKDOWN 1972-1973



(A) Cost (Reimbursed) - Special Jobs and Interdepartmental Work Orders

(B) Budget Cost

Comments

Maintenance includes all damages without offset for collections.

Fire and Police Maintenance includes: Radio Maintenance and Engineering, Electrical Overhead Construction, Teletype and Telephone Systems, Switchboard and related equipment at the Hall of Justice, and all Fire House Stations.

Administrative and overhead costs are assigned to the above functions on a pro-rata cost basis.

DEPARTMENTAL COMMITTEES

SAFETY COMMITTEE

The Department of Electricity Safety Committee, composed of eight members, convened at their regular meetings, and the minutes were recorded.

Industrial Accidents

Nine (9) were reviewed, one (1) was ruled as Non-Preventable, five (5) as Preventable, and three (3) required medical decisions.

Drives

The San Francisco Chapter of the National Safety Council expressed their appreciation to the Department of Electricity for their outstanding cooperation and support towards the annual "Dollar Membership Drive".

Bulletin Board

The Safety Bulletin Board was maintained up-to-date. All safety bulletins, magazines, newspapers, and directives were shown to members of the Safety Committee so they, in turn, could pass on the latest information received to personnel in their particular division.

DEPARTMENTAL COMMITTEES

Retirement Committee

Our Retirement Committee consists of representatives of the various Divisions and classifications working in our Department, with a permanent treasurer and secretary, and the chairmanship rotating to the Division within which the retiree is assigned.

During the year, the Retirement Committee arranged for appropriate ceremonies honoring the below listed retirees:

<u>Name</u>	<u>Date Retired</u>	<u>Classification</u>	<u>Years of Service</u>
Romo Guarglia	2-22-73	Painter	25
Adolph Sandino	8-31-72	Painter	5
Harley Moxley	1-19-73	Laborer	20
Archie Karvonen	4-27-73	Machinist	5
Arthur Rounds	6-15-73	Laborer	5
Ted O'Neal	7-8-73	Lineman	25

DEPARTMENTAL COMMITTEES

MOTOR VEHICLE ACCIDENT REVIEW COMMITTEE

The Department of Electricity has a Motor Vehicle Accident Review Committee which has been active since February, 1965. The Committee has three members appointed by the General Manager.

The purpose of the Motor Vehicle Accident Review Committee is the prevention of motor vehicle accidents by promoting the concept of Defensive Driving.

The Committee investigates the following:

- 1) Driver's report of the accident.
- 2) Police Vehicle Accident Report.
- 3) Insurance reports, if any.
- 4) Facts based on an investigation by City representatives, if any.
- 5) Statements of witnesses, if any.
- 6) Diagrams, photographs, and any other available evidence.

At the meeting, each accident is thoroughly discussed, and a decision is reached as to whether the accident is "Preventable" or "Unpreventable". The employee is then notified in writing and if the accident was judged "Preventable", the employee has 15 calendar days to appeal the decision of the committee by writing to the General Manager.

Nineteen (19) accidents were reviewed and ten (10) were declared "Preventable", with nine (9) "Unpreventable". The Department of Electricity employees drove forty-three vehicles approximately 283,160 miles during the Fiscal Year 1972-1973.

DEPARTMENT OF ELECTRICITY

RADIO COMMUNICATIONS
(VOICE, DIGITAL, TELEMETRY)

DOCUMENTS

MAN 2 71

RECEIVED
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TRAFFIC SIGNALS

ANNUAL REPORT ENDING JUNE 30, 1974

DEPT OF ELECTRICITY

FIRE ALARM

PULL HOOK
DOWN ONCE

PARKING METERS

WARNING

MCA 408

POLICE
TELEPHONE

DEPARTMENT
OF
ELECTRICITY

August 30, 1974

Mr. Thomas J. Mellon
Chief Administrative Officer
City and County of San Francisco
289 City Hall
San Francisco, California 94102

Dear Mr. Mellon:

In accordance with the provisions of Section 3.501 of the Charter of the City and County of San Francisco, I am pleased to submit the annual report of the Department of Electricity for the fiscal year 1973-74.

The Department continues to fulfill its responsibilities and performs its functions through organization into five divisions: Administrative (including Accounting), Electrical, Mechanical, Radio and Fire Alarm Operation.

The cost of operating the Department of Electricity during the fiscal year 1973-74 was 9.38% greater than for fiscal year 1972-73, but was \$111,820 less than budgeted.

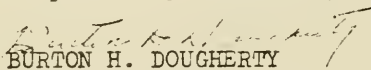
During the past year the Department has been constantly engaged in improving and upgrading the communications systems for the Police, Fire, Department of Public Health and all other City Departments.

The General Manager, Department of Electricity, is Chairman of San Francisco's Ad Hoc Committee for 911, the single emergency telephone number to be used in calling for Police, Fire and Emergency Medical assistance. This Committee has determined that 911 service can be made available in San Francisco in September 1975.

It is only through the continued dedication of the heads of each of our Divisions and of each of our employees that we have been able to provide improved communications for these Departments, and all of our employees are to be commended for their efforts.

I sincerely appreciate the help and understanding extended by you and your staff during this past year.

Respectfully submitted,


BURTON H. DOUGHERTY
General Manager
Department of Electricity

ANNUAL REPORT
DEPARTMENT OF ELECTRICITY
CITY AND COUNTY OF SAN FRANCISCO
FISCAL YEAR 1973-1974

HON. JOSEPH L. ALIOTO
MAYOR

THOMAS J. MELLON
CHIEF ADMINISTRATIVE OFFICER

BURTON H. DOUGHERTY
GENERAL MANAGER

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LETTER OF TRANSMITTAL	FRONT
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RADIO DIVISION
SUMMARY OF ~~ACTIVITIES~~ AND RESPONSIBILITIES

The Radio Division, under the Department of Electricity, is responsible to:

Assure that all radio equipment is installed, maintained and operated in compliance with existing FCC laws and regulations.

Install, repair, maintain and inspect radio communications equipment owned and operated by the City and County, or any Department, or agency thereof.

Make recommendations for proposed radio systems and installations at the request of the Board of Supervisors, or any City or County Department.

Function as technical adviser to all Departments concerning radio facilities, existing or proposed.

Provide adequate representation before the Federal Communications Commission in matters affecting the use of radio. Responsible for obtaining proper construction permits and licenses issued by the FCC.

Prepare such Rules and Regulations affecting Operational Procedures and conduct, as are necessary, to bring about conformity with Federal Communications Commission requirements.

Investigate proposed expenditures for radio communication facilities.

Assist and advise the Purchaser of Supplies in standardizing materials, supplies and equipment used for radio communications.

Make necessary recommendations on all plans and specifications for construction of new installations for radio communications by any Department or agency of the City and County.

RADIO ENGINEERING SECTION

The function of the Radio Engineering Section is project planning, project scheduling, budget development, application of communication science, planning disaster communications, monitoring compliance with Rules & Regulations of the Federal Communications Commission, communication system design, contract preparation, requisitioning and coordination of communication requirements for City Departments.

Work accomplishments during the past fiscal year:

POLICE DEPARTMENT

Police Instantaneous Communications System (PIC)

The past year has seen the introduction of Phase II of the PIC System, that of planning, engineering and procuring the necessary equipment for augmenting the Police Department with two City-Wide Base Mobile Relay facilities and the associated satellite receivers involving eight remote receiver sites. This included and involved the relocation of one existing satellite facility due to vandalism.

Additional portable hand-held radios have been added to the Police Department system. Introduction of State-provided UHF PIC portables was made through modification of tone coding.

Researched, engineered and procured multi-coupling systems to allow for additional radio antenna facilities to be placed on existing tower structures.

Evaluated and field-tested a number of voice privacy security devices for integration to existing radio facilities.

Digital Communications Command and Control

Command and Control planning and implementation of a new Communications Center for Police Department was continued. A new console was installed and a limited computer-assist dispatch interface has been effected.

In addition to Central Police Headquarters installation, the major fixed station radio facilities and related digital-equipped mobile units have been installed. Continued testing and evaluating of system is still under way.

Police District Stations

Planning on upgrading of communications facilities of both UHF and Lo-band at stable location and Richmond Station was accomplished. Installation will be effected upon arrival of equipment.

Applied for modification of district base station licenses and renewed existing authorizations to avoid delinquency.

Central Radio Station (CRS)

Conducted studies of frequency compatibility and feasibility of adding additional frequencies by other City Departments and their possible effect on existing Police Department radio facilities.

FIRE DEPARTMENT

Provided radio communications engineering assistance to the planning of the new Command and Control System at Central Fire Alarm Station.

Evaluated and procured higher-powered portable radio units for improved communications at scene of fires.

Collaborated with State Office of Emergency Planning on conversion of present Bell and Light System to a new type National Warning and Alert System (NAWAS).

Reviewed drawings, plans and specifications for communications requirements at new and rebuilt fire houses.

Requisitioned additional mobile radio units and special cliff rescue portable radio for fire vehicle.

SHERIFF DEPARTMENT

Reviewed status of and augmented communications at Jail No. 2, San Bruno. Added authorizations for mobile and portable radio operation.

Studied security requirements as related to communications and surveillance at County Jail, San Bruno. Developed plans of TV security coverage and prepared related technical specifications.

Procured FCC authorization for installation of radio control at City Hall Sheriff's Headquarters.

HEALTH DEPARTMENT

Major time in system engineering, design and operational planning has been expended in San Francisco's Emergency Medical Services communications expansion program.

We have petitioned changes to existing Rules and Regulations to the Federal Communications Commission and have been successful in persuading FCC to authorize a separate medical radio service with status similar to that of Police and Fire radio service.

We are currently developing an area-wide bio-medical radio telemetry system that will support improved medical care to the Bay Area. Technical specifications have been developed on

system; bidders' conferences and vendor demonstrations have been held and system development is continuing.

Held meetings for system planning with various levels of community health care agencies including private hospital and ambulance companies.

Surveyed and planned a radio paging system for San Francisco General Hospital on business frequency. This was accomplished for an in-Hospital paging requirement.

Conducted preliminary planning meetings on providing a radio communications system to support Division of Alcoholism, Department of Public Health.

Compiled communications technical data for Health Department's submission of Federal Grant applications.

SAN FRANCISCO AIRPORT

Obtained additional F.C.C (local government) frequency authorization for police security at S.F. International Airport.

Requisitioned and installed radio communications (satellite) receivers and comparator to augment radio communications coverage at airport terminal complex.

OFFICE OF EMERGENCY SERVICES

Continued communications engineering support to Radio Amateur Civil Emergency Service (RACES) Program.

Prepared comments on proposed FCC Dockets in relation to future functional employment of service.

Obtained modification of license to comply with new FCC Rules on Repeater Station authorization.

Prepared radio data for watching fund applications and reimbursement requests for communications and warning maintenance services.

MISCELLANEOUS

Modified base radio and mobile equipment of Ambulatory Health Care to permit operation on an existing UHF Local Government Radio Channel.

Effectuated relocation of AUHF Base Mobile Relay Radio Station from Sutro Towers to S.F. CRS facility at Twin Peaks.

Conferred with various vendors and agencies regarding parameters of their communication products.

Worked with City Planning Department on Seismic Safety Project gathering data for Central Radio Station's radio towers supporting Police, Fire and other Department's radio antennas.

Planning radio requirements and antenna distribution for third (new) antenna tower structure at Twin Peaks. This includes planning of relocation and installation of FM broadcast radio station and antenna from O'Connell School to Central Radio Station.

PERCENTAGE OF LABOR ALLOCATED

1973 - 1974

<u>DEPARTMENT</u>	<u>% '7368</u>	<u>% '7367</u>	<u>HOURS OVERTIME</u>
Police	58.27	50.79	106
Fire	21.81	17.26	33
Dept. of Public Works	.39	1.31	1
Electricity	3.88	13.23	9
Health	15.61	2.08	10
Supervisors	--	.18	--
Municipal Railway	--	12.10	14
Coroner	--	.04	--
Water Dept.	--	2.18	--
Harbor Police	--	.02	--
Disaster Corp.	.04	.14	--
Mayor	--	.07	--
Miscellaneous	--	.60	--

Hours Overtime 173

Days (Temporary
Employees) 827

Days (Vacation
Relief) 115

RADIO DIVISION
RADIO SHOP ACTIVITIES

- I Mobile Communications Unit Serviced in the Radio Shop
- 2658 - Repaired.
 - 211 - Vehicle Installations.
 - 122 - Old Vehicle Equipment Removal.
 - 100 - Miscellaneous Electronic Repairs.
- II Federal Communications Commission Calibrations
(Includes vehicles, portable units, and base stations)
- 1785 - Units checked and calibrated.
- III Special projects
- 115 - Various, consisting mainly of modifications to new or existing equipment and acceptance checks of new equipment for the Police, Fire, Water, Health, and Disaster Departments.
- IV Preventive Maintenance Services
- 140 - Various Locations.
- V Department Services (Other than preventive maintenance at the following locations)

POLICE DEPARTMENT

- 117 - Hall of Justice.
- 121 - District Base Stations (Police Stations)
- 37 - Central Radio Station.
- 2 - Bernal Heights Radio Station.
- 3 - Various Pawn Shops.

FIRE DEPARTMENT

- 66 - Central Fire Alarm Station.
- 14 - Central Radio Station.
- 64 - Secondary Base Stations (Fire Houses, other Battalion or Division Houses).
- 34 - District Base Stations (Battalion or Division Headquarters).
- 251 - Heavy Apparatus Field Repairs.
- 65 - Electronic Door Opener Repairs.
- 5 - Field Repairs to (2) Fire Boats.

RADIO DIVISION

Municipal Railway

- 1127 - Repairs to Motor Coaches and Trolley Coaches.
- 25 - Base Station Repairs.
- 4 - Central Control Repairs.
- 20 - Car Barn P.A. System Repairs.

Water Department

- 11 - Repairs at Newcomb Street Yard.
- 3 - Repairs at Mason Street Control and Lake Merced.

Health Department

- 9 - 101 Grove Street - 20 Chan. Recorder.
- 35 - Repairs to Ambulances.
- 3 - 101 - Grove Control Station.

Department of Electricity

- 2 - Central Fire Alarm Station.
- 3 - Central Radio Station.
- 2 - 901 Rankin Street

Coroner

- 2 - Repairs to Autopsy Room Recording Systems.

Department of Public Works

- 1 - Repairs Central Radio Station.
- 3 - Repairs - Army Street Consoles.

Sheriff

- 1 - Hall of Justice - County Prison consolette.
- 1 - San Bruno " " "

City Hall

- Supervisors P.A. System
- 8 - Repairs or adjustments.

RADIO DIVISION
MOBILE TWO-WAY RADIO UNITS
SERVICED BY RADIO SHOP

<u>Department</u>	<u>No. of Radio Equipped Vehicles Or Portables</u>	<u>Total Radios Maintained</u>
<u>Police</u>		
Cars and Trucks	391	
Solo Motorcycles	91	
Servicar Motorcycles (including scooters)	145	
Portables (Low Band, High Band and UHF)	516	
Command Car	1 (8 radios)	
Helicopters	2 (6 radios)	1157
<u>Fire</u>		
Cars and Apparatus	202	
Fire Boats	2 (3 radios)	
Command Car	1 (5 radios)	
Portables (UHF)	70	
Portables (Citizen Band)	3	
Portables (Paging Rcvr.)	4	
Portables (VHF)	2	289
<u>Water Department</u>		
Cars and Trucks	117	
(includes 1 Game Warden's Car)		
Portables (Low Band)	2	
Portables (Paging Recvr.)	6	125
<u>Department of Public Works</u>		
Cars and Trucks	59	
Portables (Citizen Band)	4	63
<u>Municipal Railway</u>		
Cars and Trucks	57	
Trolleys	78	
Motor Coaches	504	
Portables	2	641

RADIO DIVISION

<u>Department</u>	<u>No. of Radio Equipped Vehicles or Portables</u>	<u>Total Radios Maintained</u>
<u>Department of Electricity</u>		
Cars and Trucks	34	
Portables (Citizen's Band)	2	36
<u>Health Department</u>		
Ambulance	15	
Station Wagons	3	
Car	1	
Portables	11	
Portable (Paging Rec.)	1	28
<u>*Special Police</u>		
Cars	22	
Portables	5	27
<u>Emergency Services</u>		
Cars	3 (4 radios)	
Communication Van	1 (13 radios)	
Portables (Citizen Band)	3	20
<u>Coroner</u>		
Cars and Ambulances	4	4
<u>Harbor Police</u>		
Cars	2	
Servicar Motorcycles	2	4
<u>Sheriff</u>		
Cars	15	
Bus	5	
Portables	10	30
<u>Park and Recreation</u>		
Cars	13	
Trucks	6	
Portables (Citizen Band)	3	14
<u>Mayor's Office</u>		
Cars	1	1

* Federal Communications Commission Calibration only

RADIO DIVISION

<u>Department</u>	<u>No. of Radio Equipped Vehicles or Portables</u>	<u>Total Radios Maintained</u>
<u>Housing Police</u>		
Cars	5	
Portables	3	8
<u>City College</u>		
Portables	6	6
<u>Police Chaplains</u>		
Cars	3	3
<u>Police Commission</u>		
Cars	2	2
<u>Fire Commission</u>		
Cars	1	1
<u>Chief Administrative Officer</u>		
Gar	1	1
<u>District Attorney</u>		
Car	1	1
City Attorney	1	1
<u>*Federal Bureau of Investigation</u>		
Cars	3	3

Total mobile and portable radios 2465

*Federal Communications Commission calibration Only.

RADIO DIVISION

Base Stations Maintained

Police Department

At Central Radio Station	6 low band units 3 high band units 4 UHF units 1 microwave terminal
At Bernal Heights Station	2 low band units
At Hall of Justice	2 high band units 1 UHF unit 1 microwave terminal
At Police Station, Pistol Range and Stables	11 low band units 9 UHF units
At Bank of America	1 UHF unit

Fire Department

At Central Radio Station	2 low band units 2 high band units 1 microwave terminal
At Central Fire Alarm Station	1 high band unit 1 microwave terminal
At Fire Houses, and Airport	16 low band units

Emergency Service

At Emergency Operating Center	2 low band units
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Water Department

At Central Radio Station	2 low band units 1 UHF unit
At Bernal Heights Station	2 low band units
At Lake Merced	1 low band unit

*Housing Authority

At Central Radio Station	1 UHF unit
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*Federal Communications Commission Calibration only

RADIO DIVISION

Municipal Railway

At Central Radio Station	3 low band unit
At Forest Hill Blockhouse	4 low band units

Health Department

At 101 Grove Street	1 high band unit
At San Francisco General Hospital	2 high band units
At Central Radio Station	1 high band unit
At Laguna Honda Hospital	2 high band units

Harbor Police

At Ferry Building	1 low band unit
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Sheriff

At Hall of Justice	
At County Prison	1 high band unit
San Bruno County Prison	1 high band unit

Department of Public Works

At Central Radio Station	2 low band units
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Department of Electricity

At Central Radio Station	2 high band units
At Central Fire Alarm	1 high band unit
At Bernal Heights	1 high band unit
At 901 Rankin	1 high band unit

Park and Recreation

At McLaren Lodge	1 high band unit
At Maintenance Yard Golden Gate Park	2 high band unit

Total	100
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ELECTRICAL DIVISION

SUMMARY

The Electrical Division is responsible for the construction, maintenance and repair of:

Central Fire Alarm Station: including the emergency generators, rectifier, main batteries and all fire and communication circuits.

Fire Alarm circuits originating at the Central Station: to 2046 fire alarm boxes throughout the City. These fire alarm boxes are tested every 60 days.

Circuits for the transmission of fire alarm signals from the Central Station to all fire stations in the City.

Auxiliary Fire Alarm Systems: in 120 public schools - are inspected and tested once each month.

Police Department Emergency Telephone System: consisting of a two position switchboard with circuits to 469 call boxes located throughout the City and 79 phones in the Hall of Justice and in various Bureaus and Stations.

Bank holdup alarms, private and local telephone systems, auxiliary fire and signal systems located in the Hall of Justice.

Police Teletype System: consisting of 2 teletype transmitters and a control console in the Hall of Justice with circuits to and printers at 22 locations in the Hall of Justice and at various bureaus and stations throughout the City.

Traffic Signals, at 858 intersections, together with their synchronizing equipment and associated control cables.

Air Raid Sirens: at 53 locations throughout the City, together with their remote control equipment.

Auxiliary Fire Alarm Systems: this Department approves, tests and supervises all connections of auxiliary fire alarm systems to the municipal fire alarm system by Auxiliary Companies legally authorized by franchise to engage in this business.

Overhead Lines and Underground Cable Systems: the Department of Electricity installs, maintains and repairs all overhead and underground facilities relating to Police and Fire communications in the City.

School Auxiliary Fire Alarm Systems: the Electrical Division in cooperation with the Board of Education accepts and tests with the contractor all new auxiliary fire alarm installations in public schools, including the testing of master stations, sprinkler systems, and heat and smoke detector circuits.

ELECTRICAL DIVISION

PERMANENT PERSONNEL

1 - 7131	Electrical Maintenance and Construction Superintendent
1 - 7129	Assistant Electrical Maintenance and Construction Superintendent
1 - 5352	Electrical Draftsman
1 - 7273	Lineman General Foreman
1 - 7257	Lineman Foreman
2 - 7308	Cable Splicers
13 - 7338	Lineman
1 - 7276	Electrician General Foreman
2 - 7238	Electrician Foreman
14 - 7345	Electricians
3 - 7514	Laborers

Days worked by temporary personnel in the fiscal year due to work orders, special projects and retirements:

360	Lineman
241	Cable Splicer Foreman
452	Laborers
219	Cable Splicer

FIRE ALARM SYSTEM

Maintained the Fire Alarm System in the Central Fire Alarm Station and at 48 fire stations, 2 pumping stations, 2 tanks, the Bureau of Equipment and the Fire College, and maintained the circuits connecting these facilities.

Replaced or repaired in Fire Stations:

125	Registers
47	Bells
27	Automatic Lights
28	Relays
10	Intercoms

ELECTRICAL DIVISION

During the current fiscal year installed 5 new fire alarm boxes.

Respond to 70 complaints to the auxiliaries in the public school system and cooperated with Board of Education personnel on repairs. This included resetting the master stations inside the school and also resetting the master fire alarm box in the street.

Made repairs to 385 cases of trouble on underground and overhead circuits. This included the loss of two main cables on 19th Avenue due to building demolition.

Made repairs to damaged fire alarm boxes at 43 locations. The majority of these repairs were due to vehicular accidents.

Made repairs to 45 fire alarm boxes throughout the City.

The Electrical Division transferred overhead circuits to new poles at 76 locations.

Answered complaints and made repairs to outside local fire alarms at the Coast Guard, Hall of Justice, Chronicle and the Examiner Buildings.

Made monthly tests on the auxiliary fire alarm stations in the Broadway tunnel. This also included tests on the master boxes.

Tested and cooperated with local personnel in the maintenance of auxiliary fire alarms at the following locations:

Innes and Donahue	Grove and Stanyan
Falou and Ingalls	Lombard and Montgomery
Ocean and Junipero Serra	Grove and Stanyan

Installed new fire boxes, constructed overhead lines and pulled in cables in order to provide auxiliary fire alarms at:

Cabrillo School	Northridge Child Care Center
Visitation Valley	
Elementary School	

Fire Alarm systems were installed in new fire stations at:

2245 Jerrold
Capitol and Sagamore

ELECTRICAL DIVISION

POLICE DEPARTMENT

Maintained and repaired the emergency switchboard at the Hall of Justice, with 79 phones inside the Hall, and 469 phones located throughout the City.

Visitors' phones in the City and County Jails.

Chief of Police private telephone system.

Police Department teletype system.

Bank Alarm Control Panel.

Auxiliary fire alarm system in the City and County Jails and at the Heliport.

Cleared 155 cases of trouble in overhead and underground police circuits.

Replaced the police call box at Washington and Grant which had been damaged by a vehicle.

CENTRAL RADIO STATION

Maintained and conducted regular tests on the two emergency generators.

Inspected the radio tower and made minor repairs whenever necessary.

Serviced auxiliary equipment and replaced tower warning lights when necessary.

Visually checked tower lights and station area on all night shifts.

MAYOR'S OFFICE OF EMERGENCY SERVICES

Maintained and repaired warning sirens at 53 locations throughout the City.

Removed sirens to the machine shop for repair from the following locations:

Grant School
Sanchez and Market
Appraisers Building
Ocean and Phelan

MISCELLANEOUS WORK

Prepared plans and estimates of master and auxiliary fire alarm connections to various schools under construction.

Surveyed and checked Department of Electricity facilities and marked their locations as requested by contractors and utilities.

Rearranged Department of Electricity overhead facilities as required, due to the installation of cables by Viacom International, Inc.

Prepared plans and estimates for Municipal Fire Alarm installations at various developments throughout the City.

Performed work at the following locations, at the request of contractors and City Departments:

Geary and Masonic	Lake Merced Hills
Ocean and Junipero Serra	Hyde Street U.G.
Marina District U.G.	Hillhaven Convalescent Home
5th and Balboa	Recreation Center for the
Freeway - 3rd to 6th Sts.	Handicapped

Bay Area Rapid Transit: Installed permanent underground cables at various BART Market Street Stations.

Hunters Point Redevelopment: Relocated Fire and Police overhead facilities as necessary at the request of the Redevelopment Agency.

Market Street Modernization: Relocated fire alarm boxes and conduits at the request of the Department of Public Works.

Fire Department Command and Control Project: The Electrical Division, assisted by the Radio Engineer and Chief Fire Dispatcher, in cooperation with the Fire Department, has completed the planning phase of the Fire Department's computerized Command and Control project. This installation will involve the complete remodeling of the interior of the Central Fire Station and will include computer-assisted selective dispatching to the fire stations with voice and teletype replacing the fire bell and register system.

As a part of this project, Department of Electricity crews from Central Fire Alarm Station have completed the installation of the new dispatch circuits to 18 of the City's 44 Fire Stations, requiring the installation of 16,000 feet of overhead fire alarm cable.

TRAFFIC SIGNAL DIVISION

FISCAL YEAR 1973-74

The Traffic Signal Division responded to 1809 complaints during the year. These requests came from a variety of sources:

Police Communications, Department of Public Works, State, County and Federal authorities. We also receive numerous complaints from private citizens. These requests require and receive immediate attention.

We have continued to use our group maintenance programs; we change the actuated time controllers on a six-month interval for routine maintenance. The traffic signal lamps are changed as the work load permits.

On June 30, 1974, a total of 858 signalized intersections were in service. This represents an increase of 14 new installations from the previous year. These are as follows:

Grant and Jackson	California and Broderick
Grant and Washington	Balboa and 5th Avenue
Mission and Virginia	Lake Merced and Winston
Mission and 26th St.	Lake Merced and Font
Guerrero and 26th St.	California and 8th Ave.
Folsom and 23rd St.	California and Spruce
4th and Berry	Farnassus and U.C. Hospital
Valencia and 23rd St.	

TRAFFIC SIGNAL DIVISION

FIELD OPERATIONS

Checked Operations - - - - -	1032
Controllers Changed - - - - -	484
Relays Changed - - - - -	600
Coordination Units Changed - - - - -	126
Intersections Mass Relamped - - - - -	850
Master and Cascade AM Offsets Checked - - - - -	700
Master and Cascade FM Offsets Checked - - - - -	929
Dial Units Changed - - - - -	125
Damaged Conduit and Wiring Repaired - - - - -	298
Detector Pads Changed, 6 ft. - - - - -	46
Steel Pole, 10 ft. Changed - - - - -	25
Marbelite Pole, 10 ft. Changed - - - - -	19
Signal Heads Changed - - - - -	173
Signal Heads Realigned - - - - -	389
Visors Replaced - - - - -	304
Visors Repaired - - - - -	226
Signal Lens and Reflectors Replaced - - - - -	84
Flashers Changed - - - - -	48
Controller Cabinet Replaced - - - - -	35
Controller Cabinet Repaired - - - - -	38
Pedestrian Signals Repaired - - - - -	143
Checked Timing and Placed Timing Cards - - - - -	334
Coordination Units Repaired - - - - -	50

LAMP, TUBE TRANSFORMER REPLACEMENT:

WAIT Tube - - - - -	50
WALK Tube - - - - -	125
DON'T WALK Tube - - - - -	31
Transformers - - - - -	41
TURN Tube - - - - -	8
67 Watt Lamps - - - - -	19934
Grid Tubes and Fluorescents - - - - -	95

SHOP OPERATIONS:

Controllers Serviced - - - - -	546
Dial Units Serviced - - - - -	520
Relays Serviced - - - - -	620
Flashers Serviced - - - - -	104
Signal Heads Serviced - - - - -	180
Coordination Units Serviced - - - - -	133
Cabinets Serviced - - - - -	84

TRAFFIC SIGNAL DIVISION

The Traffic Signal Division maintained a variety of associated auxiliary equipment relating to the traffic signal system, such as cascade stations, school crossing beacons, "Bouncing Ball" flashers on freeway ramps and other ancillary equipment.

A variety of time clocks regulating master controllers, beacons and "No Left" turn signs were serviced and patrolled at regular intervals.

The Traffic Signal Division also cooperated with BART and the Market Street Redevelopment Agency on a number of projects relating to future traffic signal development along Market Street.

The inner Mission District System was revised to flash the signals between the hours of 2400 to 0600 Monday through Friday and on Saturday and Sunday from 0200 to 0600. A number of other traffic signal corridors were changed to the same type of flashing operations during the early morning hours.

The Traffic Signal Shop also assisted the contractor in various phases of the new "optically programed" 3-M signal heads on Van Ness Avenue. These signals have been placed on the center islands of the various intersections.

Installed 8 new pedestrian traffic signal heads and pedestrian push button switches at the intersection of Fortola, Woodside and O'Shaughnessy. This was intended primarily for the opening of new High School at that location. (McAteer).

The Traffic Signal Shop also aided the contractor in the removal of the obsolete traffic signal controllers along Potrero Street from Alameda to 24th Streets. A total of 13 new Econolite fixed time controllers and cabinets with the associated equipment was installed and tested. A new master controller and cabinet with the proper time clocks was installed at 21st and Potrero.

A number of new 12" red beacons were installed near the schools to assist in the regulation of traffic during the school hours. These beacons are programed to operate during the school hours at arrival and dismissal times.

The traffic signals at 5th and 6th Avenues and Balboa Streets were interconnected with the Geary Boulevard master through a minitrol system.

The traffic signal controller at Ocean Avenue and Junipero Serra Blvd. was completely rebuilt, tested and installed at

TRAFFIC SIGNAL DIVISION - Continued

this busy intersection.

We continued our program to cut down vandalism on the City's traffic signal installation. Numerous locks have been modified on the traffic signal controllers to prevent unauthorized entry into these very important control centers. Protective wire mesh screens have been placed on many of the pedestrian signals to prevent vandalism of these signals.

The traffic signals at Third and Berry Streets were modified and pedestrian signals added to take care of the increased traffic by both vehicles and pedestrians, due to the new down ramp from the freeway at 4th and Berry Streets.

The Traffic Signal Department cooperated with many other City Departments and Divisions in planning and development of future traffic signal installations.

We have continued to work with the Municipal Railway in efforts to improve the preempt systems on the various cable car crossings where traffic signals are installed.

MECHANICAL DIVISION
MANUFACTURE, MAINTENANCE AND
REPAIR

Under the general administrative direction of the General Manager, the Machine Shop and Parking Meter Superintendent directs and supervises all maintenance and repair to all mechanical equipment under the jurisdiction of the Department of Electricity. New parts are manufactured as necessary. The equipment includes the following:

- 1) 2046 Fire Alarm Boxes.
- 2) 469 Police Patrol Boxes.
- 3) 858 Traffic Signal Intersections.
- 4) All mechanical equipment at the Central Fire Alarm Station, Central Radio Station, Hall of Justice Communication's Room, and the Plant at 901 Rankin Street, including 5 emergency gas driven generators at the above and Youth Guidance Center, Bernal Heights.
- 5) 15,360 Parking Meters.
- 6) 53 Emergency Warning Sirens.
- 7) Fifty-six (56) pieces of gas engine driven equipment - 49 mobile and 7 stationary. The major repairs of the above equipment were done at the Purchasing Shops. The servicing of this equipment was done by one Automotive Serviceman at 901 Rankin Street.
- 8) The maintenance of three Departmental Buildings: Plant, 901 Rankin St., Central Fire Alarm Station, 1003 Turk St., and Central Radio Station, Twin Peaks was directed by the Machine Shop and Parking Meter Superintendent, though the majority of the work was accomplished by the Department of Public Works or through contractual services.

Manufactured:

- 1) Three-fold non-interfering Fire Alarm Boxes were manufactured to replace obsolete Fire Alarm Boxes in the new Underground Districts. New and replacement parts for Fire Alarm Boxes, Police Patrol Boxes, Registers, Instruments, and Parking Meters, were manufactured in the Machine Shop as needed.

MECHANICAL DIVISION

- 2) Approximately 1500 new parking meter installations were made, and 4500 were exchanged with Rockwell Safeguard parking meters. Area one and Area two have rates of nickel, dime and quarters. Area three and four still have penny, nickel and dime rates. Revenue from parking meters has increased by \$486,000 for a total of \$2,055,237. As of June 30, 1974, the total installation of parking meters was 15,360.
- 3) Special mechanical fixtures and apparatus were designed and manufactured to produce functional improvement. Miscellaneous tool and die, experimental projects and equipment tests were undertaken and completed.

Maintenance and Repair

Necessary and vital repairs were made to all mechanical equipment.

Painting

Fire Alarm Boxes, Police Patrol Boxes, Traffic Signals, Controllers, Parking Meters and other miscellaneous equipment were prepared and painted in the shop and field. The sirens were not painted due to a shortage of personnel. We are on a four to five year painting cycle rather than a two year cycle recommended for some of the above equipment.

Other Duties

Data was compiled for the annual budget, necessary specifications for machinery and automotive equipment were written and requisitions for equipment and supplies were made. Reports and correspondence related to the mechanical division were processed.

Records on all mechanical equipment and parking meter field and shop services were kept.

MECHANICAL DIVISION

The work was accomplished by the following personnel:

- 1 - Machine Shop and Parking Meter Superintendent
- 1 - Maintenance Machinist Foreman
- 11 - Maintenance Machinists
- 1 - Parking Meter Repairman Foreman
- 19 - Parking Meter Repairmen
- 4 - Painters
- 1 - General Laborer Foreman
- 1 - Laborer
- 1 - Clerk Typist
- 1 - Janitor
- 1 - Automotive Serviceman

42 TOTAL

PERCENT OF PERSONNEL ALLOCATED - VARIOUS DIVISIONS

No.	Class	Title	Fire	Police	Traffic	Radio	Parking Meters	Air Raid & O.D.	Misc.
1	7123	Machine Shop and Parking Meter Supt.	23	10	15	5	39	1	7
1	7258	Maintenance Machinist Foreman	30	10	10	10	30	1	9
1	7332	Maint. Machinists	30	5	10	9	40	1	5
1	7215	Gen. Laborer Fore.					100		
1	7514	Gen. Laborer					100		
1	7243	Parking Meter Repairman Foreman					100		
15	7444	Parking Meter Repairman					100		
4	7346	Painter	2-70	2-15	2-100	2-3	2-7		2-5
1	7410	Automotive Serviceman	30	15	25	10	15		5
1	1424	Clerk Typist	5	4		1	88		2

MECHANICAL DIVISION

SUMMARY OF ACTIVITIES

	<u>Total Numbers 1973-74</u>
Manufactured Fire Alarm Boxes, parts and related equipment	3,160
Repaired Fire Alarm Boxes, parts and related equipment	3,416
Manufactured Police Call Boxes, parts and related equipment	798
Repaired Police Telephones and related Communications equipment	214
Manufactured Traffic Signal Parts and Special Tools	2,319
Repaired Traffic Signals, parts and related equipment	425
Manufactured and repaired miscellaneous radio equipment items	1,290
Miscellaneous items manufactured and repaired for Plant and vehicular equipment	1,760
Manufactured jigs, fixtures, tools, stamping dies and patterns for Machine Shop production and maintenance work	233
Manufactured miscellaneous parking meter parts	24,697
Repaired parking meter cases, mechanisms, timers, and miscellaneous parts	15,700
All Registers and Emergency Generator serviced weekly; all Tappers, Jokers and Repeaters serviced monthly at the Central Fire Alarm Station, 1003 Turk Street (plus related equipment)	2,132
Emergency Warning Sirens completely overhauled	4

MECHANICAL DIVISION

PAINTING - FIELD AND SHOP

The following items have been prepared, primed and finish coated:

1973-74

FIRE ALARM SYSTEM

Fire Alarm Boxes - Field and Shop 932

Fire Alarm Box Posts, Bases, Inner Shells,
Sockets, Movement Housings, etc. - Field and Shop 1,102

POLICE COMMUNICATION

Police Call Boxes - Field and Shop 136

Miscellaneous items - Shop 48

TRAFFIC SIGNALS

Vehicular Signals - Field 841

Signal Controllers - Shop 170

Signal Controllers - Field 92

Signal Controllers, Doors, Posts, Bases, etc. - Shop 106

Walk-Wait Pedestrian Signals - Field 256

Walk-Wait Pedestrian Signals - Shop 36

Push Button Pedestrian Signals - Field Shop 70

Signal Posts, Poles, etc. - Field and Shop 296

Traffic Signal Visors and Louvers - Field and Shop 666

RADIO DIVISION

Miscellaneous Radio Equipment - Shop 94

PARKING METERS

Parking Meter Cases - Shop 260

MISCELLANEOUS PAINTING AT PLANT, 901 RANKIN ST.
CENTRAL FIRE ALARM, 1003 TURK STREET, AND CENTRAL
RADIO STATION, TWIN PEAKS

Cabinets, Siren Parts, Ladders (oiled-shellacked), Brackets,
Radio Equipment, Parts, Aluminum Strips, Redwood Moulding,
touch-up, etc.

MECHANICAL DIVISION

SUMMARY OF ACTUAL ANNUAL REPAIRS TO PARKING METERS

	1973-74
Intentionally Jammed Meters Cleared	158,344
Cases Cleaned	1,014
Damaged Meters Removed	406
Exchange Heads	3,463
Exchange Mechanisms	3,914
Exchange Mechanisms for Cleaning	7
Exchange Timers	928
Hoods Removed	922
Lock Open Coin Doors	62
Loose Heads	731
Loose Mechanisms	43
Mechanical Adjustment Mechanisms	14,035
Mechanical Adjustment Cases	1,716
Meters Installed	592
Meters Removed from Service	587
O.K. Requested Inspections	2,282
Install Glass Gaskets	24
Replace Coin Glass	630
Replace Coin Lock	61
Replace Parts to Cases	3,754
Replace Parts to Mechanisms	1,126
Replace Signal Glass	1,131
Stuck Coins	7,050
Service Coin Door	31
Service Coin Lock	947
Stuck Indicators	514
Stuck Signals	735
Stuck Timers	850
Unwound Main Springs	10,421
Winding Hole Plugged	177
Parking Meter Heads Replaced	1,189
Checked for Traffic Fines Bureau	5,556
Machine Shop Repairs on Cases	7,322
Mechanisms Cleaned and Overhauled	6,578
Parking Meter Posts Straightened	1,945
" " " Removed	248
" " " Relocated	45
" " " Installed	370
" " " Replaced	669
" " " Reset	783
Parking Meter Complaints received by telephone:	
Tax Collector's Office	3,538
Police Department	3,422
Total	247,162

MECHANICAL DIVISION
INVENTORY OF PARKING METERS
AS OF JUNE 30, 1974

<u>District</u>	<u>Number</u>	<u>Number in Off-Street Parking Lots</u>
A	<u>930</u>	<u>69</u>
B	<u>857</u>	<u>119</u>
C	<u>713</u>	<u>--</u>
D	<u>855</u>	<u>40</u>
E	<u>800</u>	<u>--</u>
F	<u>980</u>	<u>82</u>
G	<u>819</u>	<u>--</u>
H	<u>668</u>	<u>--</u>
I	<u>502</u>	<u>--</u>
J	<u>934</u>	<u>--</u>
K	<u>1024</u>	<u>--</u>
L	<u>536</u>	<u>46</u>
M	<u>737</u>	<u>--</u>
N	<u>897</u>	<u>--</u>
O	<u>601</u>	<u>73</u>
P	<u>627</u>	<u>20</u>
R	<u>774</u>	<u>299</u>
S	<u>719</u>	<u>36</u>
T	<u>562</u>	<u>41</u>
Total	<u>14,535</u>	<u>825</u>

Grand
Total 15,360

The following is material cost due to traffic damages
and vandalism \$30,350

FIRE ALARM OFFICE

The Central Fire Alarm Office, located at 1003 Turk Street, is responsible for receipt of alarms and the dispatching of fire apparatus. The operation of the entire fire alarm telegraph, telephone and radio systems of San Francisco are centered in this office. Fire Alarm personnel also receive trouble complaints and dispatch repairmen in connection with emergency repairs to traffic signals, police and fire communication systems, test defective circuits and initiate restorative actions, monitor and operate the Civil Defense siren warning system.

Personnel assigned to the Fire Alarm Office consist of the following:

- 1 - Chief Fire Alarm Dispatcher
- 9 - Fire Alarm Dispatchers
- 4 - Senior Telephone Operators

FIRE ALARM OPERATIONS

Fire Alarm signal circuits in service, including	
1 PTT leased line to Treasure Island	70
In-Service Department of Electricity Boxes	1996
Pacific Fire Extinguisher Fire Alarm Boxes with trouble signals	40
Pacific Fire Extinguisher Fire Alarm Boxes without trouble signals	10
Total Boxes	<u>2046</u>

(An increase of 4 Boxes from Fiscal Year 1972-73)

Fire Alarm Boxes pulled for test including 1324 school boxes	10,191
Fire Alarm Boxes out of service temporarily, relief box in service	139
Fire Alarm Box out of service temporarily	100
Fire Alarm Box out of service permanently	2
Fire Alarm Box transfer to another circuit	4
New Fire Alarm Box in service	5
Police call boxes in service-no increase/decrease	469

The following summarizes complaints received from the Police Department, other Municipal Agencies and private citizens concerning equipment listed below:

Fire Alarm Circuits	385
Fire Alarm Boxes	88
Police Call Box Locals	88
Police Call Boxes	114
Police Teletype	10
Signal Registers	125
Civil Defense Sirens	5
Radio Equipment	38
Traffic Signals	1,977
Miscellaneous	<u>254</u>
Total Complaints	3,084

FIRE ALARM OPERATIONS - Contd.

The following summarizes the activities of the Central Fire Alarm Station for the Fiscal Year ending June 30, 1974:

First Alarms of Fire Received and Transmitted	16,428
Second " " " "	97
Third " " " "	29
Fourth " " " "	5
Fifth " " " "	1
Still Alarms	12,783
Direct Alarms	1,337
Special Calls	100
<hr/>	
Total Alarms	30,780

(Alarms: Increase of 264 over Fiscal Year 1972-73)

Secondary Signals transmitted covering Alarms of Fire and routine operational business of the Fire Dept.: 144,977

(This indicates a decrease of 1,793 in comparison with statistics for Fiscal Year 1972-73)

FALSE ALARMS

	<u>Fiscal Year</u> <u>1973-74</u>	<u>Fiscal Year</u> <u>1972-73</u>	<u>Increase</u>	<u>Decrease</u>
Still Alarms	12,783	12,762	21	
False Still Alarms	62	79		17
Still Boxes	3,882	3,922		40
(Telephone Alarms)				
False Still Boxes	522	424	98	
Street Boxes	12,600	12,174	426	
False Street Boxes	10,066	9,471	595	

ACCOUNTING (ADMINISTRATION)

The Senior Accountant, under the direction of the General Manager is responsible for the Accounting (Administration) Division. The Division is composed of three Department of Electricity personnel and one Storekeeper from the Purchasing Department. In addition to Accounting functions, various administrative tasks are assigned which require a portion of the services of *two additional personnel. The personnel are as follows:

- 1 - 1652 Senior Accountant
- 1 - 1650 Accountant
- 1 - 1630 Account Clerk
- 1 - 1934 Storekeeper
- * 1 - 1446 Senior Clerk Stenographer
- * 1 - 1424 Clerk Typist

For functional use, the Division maintains an orderly system of recording costs and revenues which are compiled and reported to management in timely periodic reports.

For cost control of labor, material, services, and equipment, the Division maintains approximately seventy cost accounts as well as accounting for individual budgetary line items. Also, the Division, during the Fiscal Year 1973-74, compiled costs for 226 individual work orders, special jobs, and projects, an increase of 5% as compared to Fiscal Year 1972-1973.

During 1973-1974, 140 billings, in the amount of \$50,091 were made to cover Special Jobs, Installation Funds, and damages to City Property. Comparison with previous year is as follows:

	<u>1972-73</u>	<u>1973-74</u>	<u>% Increase (Decrease)</u>
No. Billings	201	140	(30.3) %
Amount of Billings	\$63,418	\$50,091	(21.0) %
Damages Billings	\$40,856	\$28,304	(30.7) %
Other Billings	\$22,562	\$21,787	(3.4) %

ESTIMATED AND COMPARATIVE REVENUE

	Estimated Revenue <u>1973-74</u>	Collections - Cash Received <u>1973-74</u>	<u>1972-73</u>	And Increase (Decrease)
Damage Claims - Traffic Signals. Note A	\$20,000	\$14,487	\$21,274	(31.9)
Damage Claims - Parking Meters. Note B	4,000	1,413	3,161	(55.3)
Damage Claims - Police & Fire Alarm Facilities. Note B	4,200	2,819	4,388	(35.8)
Housemoving Electrical Inspection. Note C	30	-0-	14	(100.0)
 TOTAL	 \$28,230	 \$18,719	 \$28,837	 (35.1)

COMMENT

Collections include all Department of Electricity Revenue collected by this Department or another.

NOTES

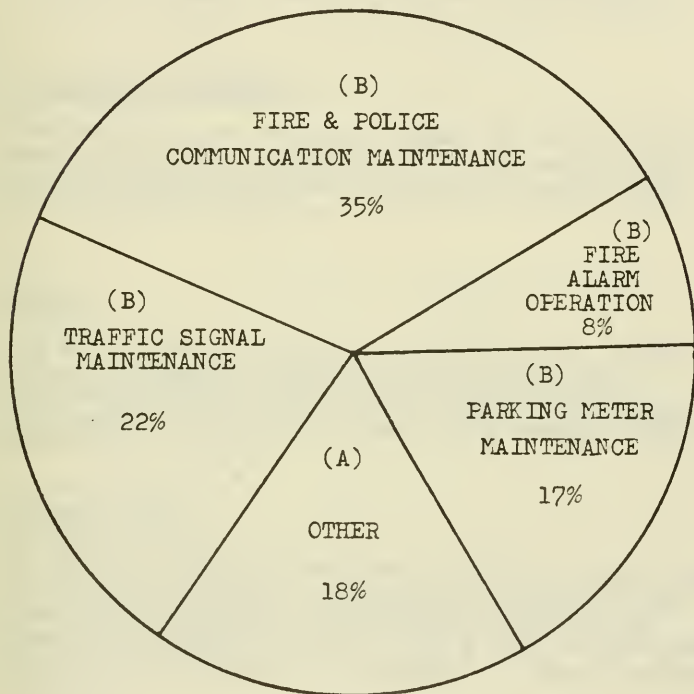
- (A) Recovery of damages is deposited to Road Fund.
- (B) Recovery of damages is deposited to General Fund.
- (C) Collections offset actual cost for each inspection of overhead line wires.

COMPARATIVE EXPENSE STATEMENT

AS OF JUNE 30, 1974

<u>Budget Description:</u>	<u>Expense</u> <u>1972-73</u>	<u>Expense</u> <u>1973-74</u>	<u>Allowance</u> <u>1973-74</u>	<u>Balance</u> <u>1973-74</u>
Permanent Salaries \$	511608	\$ 554160	\$ 607206	\$ 53046
Overtime Pay	10643	6302	9450	3148
Holiday Pay	7165	7884	7351	(533)
Temp. Salaries	6444	9060	9300	240
Wages	1183316	1250359	1276886	26527
Contractual Serv	2816	3344	5175	1831
Auto Repair	14160	14202	14220	18
Office Equip Repair	344	-	125	125
Reproduction Serv	633	429	600	171
Light Heat & Power	11894	11413	12085	672
Telephone Serv	7829	7883	7978	95
Scavenger Serv	1076	1064	1045	(19)
Material & Supplies	105981	115545	115568	23
Equipment	6037	19847	19899	52
Fixed Charges	251	267	299	32
Mandatory Fringe	229993	295638	322030	26392
Serv of Other Depts	6451	6920	6920	0
Total Budget \$	<u>2106641</u>	<u>2304317</u>	<u>2416137</u>	<u>111820</u>
Increased Budget Expense		197676		
Increased % Over 1972-73		<u>9.38%</u>		
<u>Other Description:</u>				
Interdepartmental W.O.	725485	498285	904148	405863
Equip O/H Reserve	58857	-	-	-
Installation Jobs	5998	4251	4755	504
Private Contr Jobs	<u>11234</u>	<u>11675</u>	<u>17504</u>	<u>5829</u>
Total Other	<u>801574</u>	<u>514211</u>	<u>926407</u>	<u>412196</u>
Decreased Other Expense		(287363)		
Decreased % Over 1972-73		35.8%		
Total Budget & Other	<u>2908215</u>	<u>2818528</u>	<u>3342544</u>	<u>524016</u>
Total Decreased Expense		(89687)		
Total Decreased % Over 1972-73		<u>3.08%</u>		

DEPARTMENT OF ELECTRICITY COST BREAKDOWN 1973-1974



- (A) Cost (Reimbursed) - Special Jobs and Interdepartmental Work Orders
(B) Budget Cost

COMMENTS

Maintenance includes all damages without offset for collections.

Fire and Police Maintenance includes: Radio Maintenance and Engineering, Electrical Overhead Construction, Teletype and Telephone Systems, Switchboard and related equipment at the Hall of Justice, and all Fire House Stations.

Administrative and overhead costs are assigned to the above functions on a pro rata cost basis.

DEPARTMENTAL COMMITTEES

SAFETY COMMITTEE

The Department of Electricity Safety Committee, composed of eight members, convened at their regular meetings, and the minutes were recorded.

INDUSTRIAL ACCIDENTS

Twelve (12) were reviewed, three (3) were ruled as Non-Preventable, seven (7) as Preventable, and two (2) required medical decisions because they were recurrent injuries.

DRIVES

The San Francisco Chapter of the National Safety Council expressed their appreciation to the Department of Electricity for their outstanding cooperation and support towards the annual "Dollar Membership Drive".

BULLETIN BOARD

The Safety Bulletin Board was maintained up-to-date. All safety bulletins, magazines, newspapers, and directives were shown to members of the Safety Committee so they, in turn, could pass on the latest information received to personnel in their particular division.

DEPARTMENTAL COMMITTEES

Retirement Committee

Our Retirement Committee consists of representatives of the various Divisions and classifications working in our Department, with a permanent treasurer and secretary, and the chairmanship rotating to the Division within which the retiree is assigned.

During the year, the Retirement Committee arranged for appropriate ceremonies honoring the below listed retirees:

<u>Name</u>	<u>Date Retired</u>	<u>Classification</u>	<u>Years of Service</u>
Ted O'Neal	7-8-73	Lineman	25
Frank Garkus	9-18-73	Radio Engineer	21½
William Surtees	2-1-74	Gen. Foreman	21

DEPARTMENTAL COMMITTEES

MOTOR VEHICLE ACCIDENT REVIEW COMMITTEE

The Department of Electricity has a Motor Vehicle Accident Review Committee which has been active since February, 1965. The Committee has three members appointed by the General Manager.

The purpose of the Motor Vehicle Accident Review Committee is the prevention of motor vehicle accidents by promoting the concept of Defensive Driving.

The Committee investigates the following:

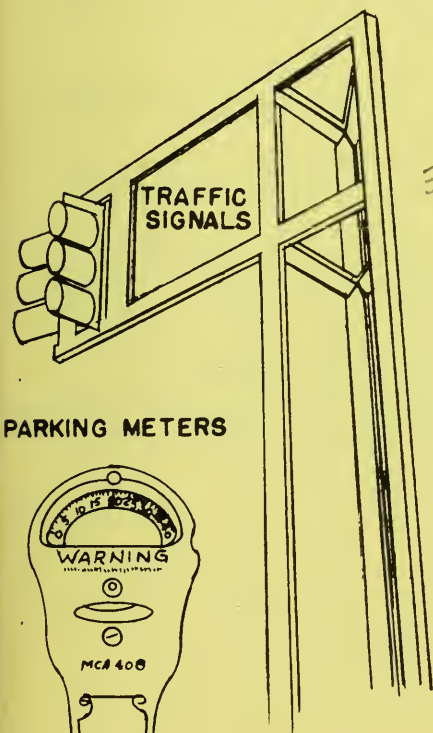
- 1) Driver's report of the accident.
- 2) Police Vehicle Accident Report.
- 3) Insurance reports, if any.
- 4) Facts based on an investigation by City representatives, if any.
- 5) Statements of witnesses, if any.
- 6) Diagrams, photographs, and any other available evidence.

At the meeting, each accident is thoroughly discussed, and a decision is reached as to whether the accident is "Preventable" or "Unpreventable". The employee is then notified in writing and if the accident was judged "Preventable", the employee has 15 calendar days to appeal the decision of the committee by writing to the General Manager.

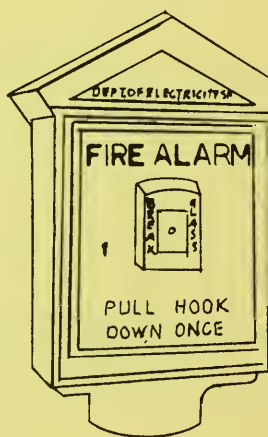
Seventeen (17) accidents were reviewed and ten (10) were declared "Preventable", with seven (7) "Unpreventable". The Department of Electricity employees drove forty-six vehicles approximately 262,150 miles during the Fiscal Year 1973-1974.

DEPARTMENT OF ELECTRICITY

RADIO COMMUNICATIONS
(VOICE, DIGITAL, TELEMETRY)



ANNUAL REPORT ENDING JUNE 30, 1975



DOCUMENTS

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CITY AND COUNTY OF SAN FRANCISCO

DEPARTMENT OF ELECTRICITY

OFFICE OF THE
GENERAL MANAGER

AREA CODE 415
558-4485

August 27, 1975

901 RANKIN STREET
SAN FRANCISCO 94124

Mr. Thomas J. Mellon
Chief Administrative Officer
City and County of San Francisco
289 City Hall
San Francisco, California

Dear Mr. Mellon:

In accordance with the provisions of Section 3.501 of the Charter of the City and County of San Francisco, I am pleased to submit the annual report of the Department of Electricity for the fiscal year 1974-75.

The Department continues to fulfill its responsibilities and perform its function through organization into five divisions: Administrative (including Accounting), Electrical, Mechanical, Radio and Fire Alarm Operation.

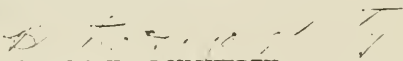
The cost of operating the Department of Electricity during the fiscal year 1974-75 was 8.65% greater than for fiscal year 1973-74, but was \$55,446 less than budgeted.

Expanding, improving and upgrading the communications systems for all City Departments continued throughout the year.

In last year's annual report it was indicated that "911" telephone service could be made available in September 1975. Because of lack of available funds, it now appears that this service will not be provided until sometime in 1976.

I sincerely appreciate the help and understanding extended by you and your staff during this past year, and I wish to commend the employees of our Department of Electricity for their continued dedication in providing service to the various Departments and to the citizens of San Francisco.

Respectfully submitted,


BURTON H. DOUGHERTY
General Manager
Department of Electricity

ANNUAL REPORT
DEPARTMENT OF ELECTRICITY
CITY AND COUNTY OF SAN FRANCISCO
FISCAL YEAR 1974-75

HON. JOSEPH L. ALIOTO
MAYOR

THOMAS J. MELLON
CHIEF ADMINISTRATIVE OFFICER

BURTON H. DOUGHERTY
GENERAL MANAGER

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ACCOUNTING (ADMINISTRATION)

The Senior Accountant, under the direction of the General Manager is responsible for the Accounting (Administration) Division. The Division is composed of three Department of Electricity personnel and one Storekeeper from the Purchasing Department. In addition to Accounting functions, various administrative tasks are assigned which require a portion of the services of *two additional personnel. The personnel are as follows:

- 1 - 1652 Senior Accountant
- 1 - 1650 Accountant
- 1 - 1630 Account Clerk
- 1 - 1934 Storekeeper
- *1 - 1446 Senior Clerk Stenographer
- *1 - 1424 Clerk Typist

For functional use, the Division maintains an orderly system of recording costs and revenues which are compiled and reported to management in timely periodic reports.

For cost control of labor, material, services, and equipment, the Division maintains approximately seventy cost accounts as well as accounting for individual budgetary line items. Also, the Division, during the Fiscal Year 1974-75, compiled costs for 236 individual work orders, special jobs, and projects, an increase of 4% as compared to Fiscal Year 1973-74.

During 1974-75, 140 billings, in the amount of \$51,843 were made to cover Special Jobs, Installation Funds, and damages to City property. Comparison with previous year is as follows:

	<u>1974-75</u>	<u>1973-74</u>	<u>% Increase (Decrease)</u>
No. Billings	153	140	.93%
Amount of Billings	\$51,843	\$50,091	.35%
Damages Billings	\$39,064	\$28,304	.380%
Other Billings	\$12,779	\$21,787	(.413%)

ESTIMATED AND COMPARATIVE REVENUE

	Estimated Revenue <u>1974-75</u>	Collections - Cash Received <u>1974-75</u>	<u>1973-74</u>	And % Increase (Decrease)
Damage Claims - Traffic Signals. Note A	\$15,000	\$24,489	\$14,487	(69.0%)
Damage Claims - Parking Meters. Note B	3,500	3,224	1,413	(128.0%)
Damage Claims - Police & Fire Alarm Facilities. Note B	3,500	2,474	2,819	(12.2%)
Housemoving Electrical Inspection. Note C	30	18	-0-	-
 TOTAL	 \$22,030	 \$30,205	 \$18,719	 (61.4%)

COMMENT

Collections include all Department of Electricity Revenue collected by this Department or another.

NOTES

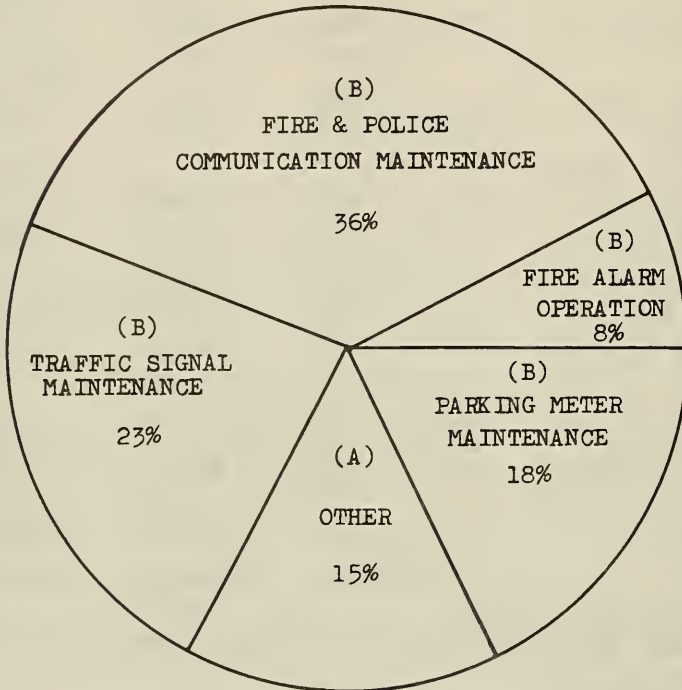
- (A) Recovery of damages is deposited to Road Fund.
- (B) Recovery of damages is deposited to General Fund.
- (C) Collections offset actual cost for each inspection of overhead line wires.

COMPARATIVE EXPENSE STATEMENT

AS OF JUNE 30, 1975

<u>Budget Description:</u>	<u>Expense</u> <u>1973-74</u>	<u>Expense</u> <u>1974-75</u>	<u>Allowance</u> <u>1974-75</u>	<u>Balance</u> <u>1974-75</u>
Permanent Salaries	\$ 554160	585521	626324	40803
Overtime Pay	6302	8250	8250	0
Holiday Pay	7884	7706	7706	0
Temp. Salaries	9060	12200	12200	0
Wages	1250359	1346203	1351442	5239
Contractual Serv.	3344	4117	4002	(115)
Auto. Repair	14202	15319	15446	127
Office Equip. Repair	-	-	150	150
Reproduction Serv.	429	484	600	116
Light Heat & Power	11413	13847	13803	(44)
Telephone Serv.	7883	8024	8400	376
Scavenger Serv.	1064	1212	1178	(34)
Material & Supplies	115545	123397	123524	127
Equipment	19847	12780	12783	3
Fixed Charges	267	416	416	0
Mandatory Fringe	295638	356742	365032	8290
Serv. of other Depts.	6920	7430	7838	408
Total Budget	<u>\$ 2304317</u>	<u>2503648</u>	<u>2559094</u>	<u>55446</u>
Increased Budget Expense		199331		
Increased % Over 1973-74		<u>8.65%</u>		
<u>Other Description:</u>				
Interdepartmental W.O.	\$ 498285	134354	576761	442407
Installation Jobs	4251	2286	2358	72
Private Contr. Jobs	11675	7194	7194	-
Total Other	<u>\$ 514211</u>	<u>143834</u>	<u>586313</u>	<u>442479</u>
Decreased Other Expense		(370377)		
Decreased % Over 1973-74		72%		
Total Budget & Other	<u>\$ 2818528</u>	<u>2647482</u>	<u>3145407</u>	<u>497925</u>
Total Decreased Expense		(171046)		
Total Decreased % Over 1973-74		<u>6.1%</u>		

DEPARTMENT OF ELECTRICITY COST BREAKDOWN 1974-1975



(A) Cost (Reimbursed) - Special Jobs and Interdepartmental Work Orders

(B) Budget Cost

COMMENTS

Maintenance includes all damages without offset for collections.

Fire and Police Maintenance includes: Radio Maintenance and Engineering, Electrical Overhead Construction, Teletype and Telephone Systems, Switchboard and related equipment at the Hall of Justice, and all Fire House Stations.

Administrative and overhead costs are assigned to the above functions on a pro rata cost basis.

FIRE ALARM OFFICE

The Central Fire Alarm Office, at 1003 Turk Street, is responsible for receipt of alarms and the dispatching of fire apparatus. The operation of the entire fire alarm telegraph system of San Francisco is centered in this office. Fire Alarm personnel also receive trouble complaints and dispatch repairmen in connection with emergency repairs to traffic signals, police and fire communication system, test defective circuits and initiate restorative actions, monitor and operate the Civil Defense siren warning system.

Personnel assigned to the Fire Alarm Office consist of the following:

- 1 - Chief Fire Alarm Dispatcher
- 9 - Fire Alarm Dispatchers
- 4 - Senior Telephone Operators

FIRE ALARM OPERATIONS

Fire Alarm circuits in service, including	
1 PTT leased line to Treasure Island	70
In service - Dept. of Electricity Boxes	1996
Pacific Fire Extinguisher in service with trouble signals	35
Pacific Fire Extinguisher in service without trouble signals	9
	<hr/>
Total Boxes	2040

(A decrease of 6 Boxes)

Fire Boxes pulled for test including	
1438 school boxes	13133
Fire Alarm Boxes out of service temporarily, relief box in service	200
Fire Alarm Box out of service temporarily	56
Fire Alarm Box out of service permanent	10
New Fire Alarm Box in service	6
Fire Alarm Box transfer to another circuit	8
Police call boxes in service - no increase/decrease	469

The following summarizes complaints received from the Police Department, other Municipal Agencies and private citizens concerning equipment listed below:

Fire Alarm Circuits	353
Fire Alarm Boxes	96
Police Call Box Locals	79
Police Call Boxes	94
Police Teletype	8
Signal Registers	146
Radio Equipment	67
Civil Defense Sirens	1
Traffic Signals	2079
Misc. Equipment	218
	<hr/>
Total Complaints	3141

FIRE ALARM OPERATIONS - Continued

The following summarizes the activities of the Central Fire Alarm Station for the Fiscal Year ending June 30, 1975:

First Alarms of Fire Received and Transmitted	17,035
Second " " " "	84
Third " " " "	20
Fourth " " " "	6
Fifth " " " "	0
Direct " " " "	1242
Still " " " "	<u>13,822</u>
Total Alarms	32,264

(Alarms: Increase of 1484 over Fiscal Year 1973-74)

Secondary Signals transmitted covering alarms of fire and routine operational business of the Fire Department: 155,828

This indicates an increase of 10,851 in comparison with statistics for Fiscal Year 1973-74.

FALSE ALARMS

	<u>Fiscal Year</u> <u>1974-75</u>	<u>Fiscal Year</u> <u>1973-1974</u>	<u>Increase</u>
Still Alarms	13,822	12,783	1139
False Still Alarms	101	62	39
Still Boxes (Telephone Alarms)	4,022	3,882	140
False Still Boxes	533	522	11
Street Boxes	12,960	12,600	360
False Street Boxes	10,155	10,066	89

ELECTRICAL DIVISION

SUMMARY

The Electrical Division is responsible for the construction, maintenance and repair of:

Central Fire Alarm Station: including the emergency generators, rectifier panel, main battery bank and all fire alarm and communication circuits.

Fire Alarm Circuits originating at the Central Fire Alarm Station: to 2040 fire alarm boxes throughout the City. These fire alarm boxes are tested every 60 days.

Circuits for the transmission of fire alarm signals from the Central Station to all fire stations in the City.

Auxiliary Fire Alarm Systems: in 115 public schools are tested and inspected once each month.

Police Department Emergency Telephone System: consisting of a two-position switchboard with circuits to 469 call boxes located throughout the City and 79 phones in the Hall of Justice and at various bureaus and stations throughout the City.

Police Teletype System: consisting of two teletype transmitters and a control console in the Hall of Justice with circuits to printers throughout the Hall of Justice and at various bureaus and police stations throughout the City.

Traffic Signals: at 869 intersections, together with their synchronizing equipment and associated control cables.

Air Raid Sirens: at 53 locations throughout the City, together with their remote control equipment.

Auxiliary Fire Alarm Systems: This Department appoxes, tests and supervises all connections of auxiliary fire alarms to the municipal fire alarm system by auxiliary companies legally authorized by franchise to engage in this business.

Overhead Lines and Underground Cable Systems: The Department of Electricity installs and maintains all overhead and underground facilities relating to Police and Fire communications in the City.

School Auxiliary Systems: in cooperation with the Board of Education, the Department of Electricity accepts and tests with the contractor all new auxiliary fire alarm installations in public schools, including the testing of master stations, sprinkler systems and smoke detector circuits.

ELECTRICAL DIVISION

PERMANENT PERSONNEL

- 1 - 7131 Electrical Maintenance and Construction
Superintendent
- 1 - 5352 Electrical Draftsman
- 1 - 7273 Lineman General Foreman
- 1 - 7257 Lineman Foreman
- 2 - 7308 Cable Splicers
- 13 - 7338 Lineman
- 1 - 7276 Electrician General Foreman
- 2 - 7238 Electrician Foreman
- 14 - 7345 Electricians
- 3 - 7514 Laborers

Days worked by temporary personnel in the fiscal year due to work orders, special projects and retirements:

- 253 Lineman
- 253 Cable Splicer Foreman
- 253 Cable Splicer

FIRE ALARM SYSTEM

Maintained the Fire Alarm System in the Central Fire Alarm Station and at 44 fire stations, 2 pumping stations, 2 tanks, the Bureau of Equipment and the Fire College, and the Chief of the Fire Department's residence.

Replaced or repaired in Fire Stations:

- 85 Registers
- 43 Bells
- 37 Automatic Lights
- 38 Relays

ELECTRICAL DIVISION

During the current fiscal year installed 7 new fire alarm boxes.

Responded to 121 complaints to the auxiliaries in the public school system and cooperated with the Board of Education personnel on repairs. This included resetting the master stations inside the school and also resetting the master fire alarm box.

Located and made repairs to 300 cases of trouble on overhead and underground circuits.

Made repairs to damaged fire alarm boxes at 51 locations. The majority of these repairs were due to vehicular accidents.

Made field repairs to 50 fire boxes throughout the City.

Transferred overhead facilities to new poles at 70 locations.

Answered complaints and made repairs to outside local fire alarms at the Coast Guard, Hall of Justice, Chronicle and Examiner Buildings.

Made monthly tests on the auxiliary fire alarm stations in the Broadway Tunnel, including testing the master boxes.

Tested and cooperated with local personnel in the maintenance of auxiliary fire alarms at the following locations:

Municipal Railroad: Elkton Yard
 Elkton Shops
 Kirkland Yard

Hunters Point Navy Yard

Palou and Ingalls

Donahue and Innes

Cooperated with the Board of Education, Bureau of Architecture and the Fire Department connecting, testing and accepting auxiliary fire alarms in new schools.

ELECTRICAL DIVISION

POLICE DEPARTMENT

Maintained and repaired the emergency telephone switchboard at the Hall of Justice with 79 phones inside the Hall and 466 phones located throughout the City.

Visitors' phones in the City and County Jails.

Chief of Police private telephone system.

Auxiliary fire alarm in the City and County Jails and at the Heliport.

Cleared 130 cases of trouble in overhead and underground police circuits.

Replaced and repaired damaged police telephones at 8 locations. These damages were due to vehicular damage.

CENTRAL RADIO STATION

Maintained and conducted regular tests on the two emergency generators.

Installed wiring for a burglar alarm in the main building and in the generator room.

Checked tower and area lights and made security patrols of grounds during the hours of darkness.

Serviced auxiliary equipment and replaced tower warning lights when necessary.

MAYOR'S OFFICE OF EMERGENCY SERVICES

Maintained and repaired warning sirens at 53 locations throughout the City.

Removed sirens to machine shop from Daniel Webster School while building is being replaced.

Relocated siren at Naglee and Ocean Avenues because of real estate development.

Removed siren from Jamestown and Ingalls to the machine shop for repair.

ELECTRICAL DIVISION

MISCELLANEOUS WORK

Prepared plans and estimates of master and auxiliary fire alarm connections to new schools and to renovated schools.

Surveyed and checked Department of Electricity facilities and marked locations as requested by contractor and utility companies.

Rearranged Department of Electricity overhead facilities due to the installation of cables by Viacom International, Inc.

Prepared plans and estimates for municipal fire alarm installations at various developments throughout the City.

Performed work at the following locations at the request of contractors and City Departments:

Lake Merced Hills	Webster Street
Cablevision Locations	7th & Berry Streets
Cow Hollow	Jennings Street
Masonic Avenue	Hyde Street
Pine Street	

Hunters Point Redevelopment: Relocated fire alarm boxes and conduits at the request of the Department of Public Works.

Market Street Modernization: Relocated fire alarm boxes and conduits at the request of the Department of Public Works.

Fire Department Command and Control Project: The Electrical Division with the cooperation of the Chief Fire Dispatcher and the Fire Department has installed six miles of overhead cable and has begun the testing of consoles installed in various fire stations. This installation will involve the complete remodeling of the interior of the Central Fire Station and will include computer-assisted selective dispatching to the fire stations with voice and teletype replacing the fire bell and register system. As of now, the installation has been completed on 38 of the City's 44 Fire Stations.

TRAFFIC SIGNAL DIVISION

A total of 16 new intersections were added to the City's Traffic Signal network during the course of the Fiscal Year. These are as follows:

Army Circle #1	Kezar Drive & South Drive
Army Circle #2	Stanyan & Parnassus
Grant & Sacramento	Great Highway & Sloat
Grant & Clay	California & Powell
Polk & Clay	4th & Townsend
Sacramento & Fillmore	12th & Howard
Hayes & Webster	12th & Folsom
5th Ave. & Lincoln	Howard & Main

The north of Market Street Traffic Signal Grid has been modified to flash the signals between the hours of 0200 and 0600 seven days a week. This required extensive testing of the master cables, masters and cascade stations. The Traffic Signal Division also tested several hundred individual flasher systems in the intersection controllers.

On Montgomery Street, between California Street and Sutter Street, the traffic signals have been programed to flash between the hours of 1900 to 0645 hours, Monday through Friday. The signals flash 24 hours on Saturdays and Sundays.

The traffic signal poles were relocated on Lake Merced Boulevard and Font to accommodate the new bicycle path on the western side of this roadway. We have also modified the controllers at Font and Winston, on Lake Merced Boulevard, to facilitate left turn movements from southbound vehicle traffic.

The traffic signals along Portola Boulevard at 14th and Vicente Avenues were revised and programed visibility traffic signals, of the "3M" type, were installed at various median strips.

The Traffic Signal Shop installed a new type of flashing ballast to four signals that are on various cable car turns to warn motorists of approaching cable cars and to aid in the turns these unique cars have to make. Magnetic detector systems have been installed in the tracks of the cable car system to give more positive signals to the traffic signal controllers.

The Traffic Signal Division has considerable problems with the functioning of both systems.

The Division has been forced to go to magnetic detection systems on our semi-actuated and full-actuated intersections. The old type pressure pads are no longer available from our normal sources of supply.

We have made numerous changes to the wiring the receptacles and cord caps to conform to the new OSHA standards in the Traffic Signal Maintenance Shop.

TRAFFIC SIGNAL DIVISION

In service July 1, 1974	-	858 intersections
In service June 30, 1975	-	874 intersections
Complaints responded to:	-	1921

FIELD OPERATIONS

Checked Operations - - - - -	729
Controllers Changed - - - - -	387
Relays Changed - - - - -	949
Coordination Units Changed - - - - -	52
Intersections Mass Relamped - - - - -	860
Master and Cascade AM Offsets Checked - - - - -	985
Master and Cascade FM Offsets Checked - - - - -	951
Dial Units Changed - - - - -	86
Damaged Conduit and Wiring Repaired -	342
Detector Pads Changed, 6 Ft. - - - - -	43
Steel Pole, 10 Ft. Changed - - - - -	41
Marbelite Pole, 10 Ft. Changed - - - - -	38
Signal Heads Changed - - - - -	205
Signal Lens and Reflectors Replaced -	176
Visors Replaced - - - - -	319
Visors Repaired - - - - -	681
Flashers Changed - - - - -	135
Signal Heads Realigned - - - - -	388
Controller Cabinet Replaced - - - - -	44
Controller Cabinet Repaired - - - - -	67
Pedestrian Signals Repaired - - - - -	141
Checked Timing and Placed Timing Cards -	538
Coordination Units Repaired - - - - -	150

TRAFFIC SIGNAL DIVISION - CONTD.

LAMP, TUBE TRANSFORMER REPLACEMENT:

WAIT Tube - - - - -	45
WALK Tube - - - - -	101
DON'T WALK Tube - - - - -	34
Transformers - - - - -	51
TURN Tube - - - - -	8
67 Watt Lamps - - - - -	24925
Grid Tubes - - - - -	50
Fluorescents - - - - -	95

SHOP OPERATIONS:

Controllers Serviced - - - -	472
Dial Units Serviced - - - -	372
Relays Serviced - - - - -	648
Flashers Serviced - - - - -	168
Signal Heads Serviced - - - -	346
Coordination Units Serviced -	158
Cabinets Serviced - - - - -	90

MECHANICAL DIVISION

MANUFACTURE, MAINTENANCE AND REPAIR

Under the general administrative direction of the General Manager, the Machine Shop and Parking Meter Superintendent directs and supervises all maintenance and repair to all mechanical equipment under the jurisdiction of the Department of Electricity. New parts are manufactured as necessary. The equipment includes the following:

- 1) 2050 Fire Alarm Boxes.
- 2) 469 Police Patrol Boxes.
- 3) 874 Traffic Signals.
- 4) All mechanical equipment at the Central Fire Alarm Station, Central Radio Station, Hall of Justice Communication's Room, and the Plant at 901 Rankin Street, including 5 emergency gas driven generators at the above and Youth Guidance Center, Bernal Heights.
- 5) 15,437 Parking Meters.
- 6) 53 Emergency Warning Sirens.
- 7) Fifty-Six (56) pieces of gas driven equipment - 49 mobile and 7 stationary. The major repairs of the above equipment were done at the Purchasing Shops. The servicing of this equipment was done by one Automotive Serviceman at 901 Rankin Street.
- 8) The maintenance of three Departmental Buildings: Plant, 901 Rankin St., Central Fire Alarm Station, 1003 Turk St., and Central Radio Station, Twin Peaks was directed by the Machine Shop and Parking Meter Superintendent, though the majority of the work was accomplished by the Department of Public Works, or through contractual services.

Manufactured:

- 1) Three-fold non-interfering Fire Alarm Boxes were manufactured to replace obsolete Fire Alarm Boxes in the new Underground Districts. New and replacement parts for Fire Alarm Boxes, Police Patrol Boxes, Registers, Instruments, and Parking Meters, were manufactured in the Machine Shop as needed.

MECHANICAL DIVISION

- 2) Approximately 348 new parking meter installations were made. Area one and area two have rates of nickel, dime and quarter. Area three and four still have penny, nickel and dime rates. Revenue from parking meters has increased by \$366,000 for a total of \$2,421,621. As of June 30, 1975, the total installation of parking meters was 15,437.
- 3) Special mechanical fixtures and apparatus were designed and manufactured to produce functional improvement. Miscellaneous tool and die, experimental projects and equipment tests were undertaken and completed.

Maintenance and Repair

Necessary and vital repairs were made to all mechanical equipment.

Painting

Fire Alarm Boxes, Police Patrol Boxes, Traffic Signals, Controllers, Parking Meters and other miscellaneous equipment were prepared and painted in the shop and field. Due to a shortage of personnel, we are on a four to five year painting cycle, rather than a two year cycle recommended for some of the above equipment.

Other Duties

Data was compiled for the annual budget, necessary specifications for machinery and automotive equipment were written, and requisitions for equipment and supplies were made. Reports and correspondence related to Mechanical Division were processed. Records on all Mechanical equipment and Parking Meter field and Shop services were kept.

MECHANICAL DIVISION

The work was accomplished by the following personnel:

- 1 - Machine Shop and Parking Meter Superintendent
- 1 - Maintenance Machinist Foreman
- 11 - Maintenance Machinists
- 1 - Parking Meter Repairman Foreman
- 19 - Parking Meter Repairmen
- 3 - Painters
- 1 - General Laborer Foreman
- 1 - Laborer
- 1 - Clerk Typist
- 1 - Janitor
- 1 - Automotive Serviceman

41 TOTAL

PERCENT OF PERSONNEL ALLOCATED - VARIOUS DIVISIONS

No.	Class	Title	Fire	Police	Traffic	Radio	Parking Meters	Air Raid & O.D.	Misc.
1	7123	Machine Shop and Parking Meter Supt.	23	10	15	5	39	1	7
1	7258	Maintenance Machinist Foreman	30	10	10	10	30	1	9
11	7332	Maint. Machinists	30	5	10	9	40	1	5
1	7215	Gen. Laborer Fore.					100		
1	7514	Gen. Laborer					100		
1	7243	Parking Meter Repairman Foreman					100		
19	7444	Parking Meter Repairman					100		
3	7346	Painter	1-70	1-15	2-100	1-3	1-7		1-5
1	7410	Automotive Serviceman	30	15	25	10	15		5
1	1424	Clerk Typist	5	4		1	88		2

MECHANICAL DIVISION

SUMMARY OF ACTIVITIES

	<u>Total Numbers 1974-75</u>
Manufactured Fire Alarm Boxes, parts and related equipment	6,603
Repaired Fire Alarm Boxes, parts and related equipment	916
Manufactured Police Call Boxes and related equipment	777
Repaired Police Telephones and related Communications equipment	398
Manufactured Traffic Signal Parts and Special Tools	956
Repaired Traffic Signals, parts and related equipment	781
Manufactured and repaired miscellaneous radio equipment items	1,243
Miscellaneous items manufactured and repaired for Plant and vehicular equipment	1,268
Manufactured jigs, fixtures, tools, stamping dies and patterns for Machine Shop production and maintenance work	55
Manufactured miscellaneous parking meter parts	12,009
Repaired parking meter cases, mechanisms, timers, and miscellaneous parts	5,990
All Registers and Emergency Generators serviced weekly; all Tappers, Jokers and Repeaters serviced monthly at the Central Fire Alarm Station, 1003 Turk St. (plus related equipment)	3,704
Emergency Warning Sirens completely overhauled, and painted	3

MECHANICAL DIVISION
PAINTING - FIELD AND SHOP

The following items have been prepared, primed and finish coated:

1974-75

FIRE ALARM SYSTEM

Fire Alarm Boxes - Field and Shop	565
Fire Alarm Box Posts, Bases, Inner Shells, Sockets, Movement Housings, etc. - Field and Shop	870

POLICE COMMUNICATION

Police Call Boxes - Field and Shop	183
Miscellaneous items - Shop	30

TRAFFIC SIGNALS

Vehicular Signals - Field	1,094
Signal Controllers - Shop	120
Signal Controllers - Field	128
Signal Controllers, Doors, Posts, Bases, etc. - Shop	110
Walk-Wait Pedestrian Signals - Field	364
Walk-Wait Pedestrian Signals - Shop	32
Push Button Pedestrian Signals - Field Shop	19
Signal Posts, Poles, etc. - Field and Shop	364
Traffic Signal Visors and Louvers - Field and Shop	698

RADIO DIVISION

Miscellaneous Radio Equipment - Shop	68
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PARKING METERS

Parking Meter Cases - Shop	184
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MISCELLANEOUS PAINTING AT PLANT, 901 RANKIN ST.
CENTRAL FIRE ALARM, 1003 TURK STREET, AND CENTRAL
RADIO STATION, TWIN PEAKS

Cabinets, Siren Parts, Ladders (oiled-shellacked), Brackets,
Radio Equipment, Parts, Aluminum Strips, Redwood Moulding,
touch-up, etc.

MECHANICAL DIVISION

SUMMARY OF ACTUAL ANNUAL REPAIRS TO PARKING METERS

	<u>Units</u>
Intentionally Jammed Meters Cleared	171,670
Cases Cleaned	1,669
Damaged Meters Removed	263
Exchange Heads	302
Exchange Mechanisms	3,583
Exchange Mechanisms for Cleaning	7
Exchange Timers	700
Hoods Removed	2,333
Lock Open Coin Doors	49
Loose Heads	558
Loose Mechanisms	162
Mechanical Adjustment Mechanisms	15,513
Mechanical Adjustment Cases	3,288
Meters Installed	348
Meters Removed from Service	820
O.K. Requested Inspections	3,406
Install Glass Gaskets	46
Replace Coin Glass	661
Replace Coin Lock	166
Replace Parts to Cases	5,718
Replace Parts to Mechanisms	1,034
Replace Signal Glass	1,018
Stuck Coins	7,042
Service Coin Door	36
Service Coin Lock	486
Stuck Indicators	783
Stuck Signals	1,198
Stuck Timers	991
Unwound Main Springs	6,188
Winding Hole Plugged	235
Parking Meter Heads Replaced	1,334
Checked for Traffic Fines Bureau	4,883
Machine Shop Repairs on Cases	2,644
Mechanisms Cleaned and Overhauled	6,851
Temporarily Out of Service	344
Repair Timers	497
Parking Meter Posts Straightened	2,207
" " " Removed	304
" " " Relocated	56
" " " Installed	448
" " " Replaced	617
" " " Reset	852
Parking Meter Complaints received by telephone:	
Tax Collector's Office	2,828
Police Department	3,549
Total	257,687

MECHANICAL DIVISION
INVENTORY OF PARKING METERS
AS OF JUNE 30, 1975

<u>District</u>	<u>Number</u>	<u>Number in Off-Street Parking Lots</u>
A	<u>948</u>	<u>69</u>
B	<u>864</u>	<u>119</u>
C	<u>738</u>	<u>0</u>
D	<u>850</u>	<u>40</u>
E	<u>767</u>	<u>0</u>
F	<u>999</u>	<u>82</u>
G	<u>803</u>	<u>0</u>
H	<u>657</u>	<u>0</u>
I	<u>508</u>	<u>0</u>
J	<u>943</u>	<u>0</u>
K	<u>1021</u>	<u>0</u>
L	<u>577</u>	<u>46</u>
M	<u>757</u>	<u>0</u>
N	<u>877</u>	<u>0</u>
O	<u>677</u>	<u>73</u>
P	<u>622</u>	<u>20</u>
R	<u>744</u>	<u>299</u>
S	<u>717</u>	<u>36</u>
T	<u>543</u>	<u>41</u>
Total	<u>14,612</u>	<u>825</u>

Grand
Total 15,437

RADIO DIVISION

SUMMARY OF ACTIVITIES AND RESPONSIBILITIES

The Radio Division, under the Department of Electricity, is responsible to:

Assure that all radio equipment is installed, maintained and operated in compliance with existing FCC laws and regulations.

Install, repair, maintain and inspect radio communications equipment owned and operated by the City and County, or any Department, or agency thereof.

Make recommendations for proposed radio systems and installations at the request of the Board of Supervisors, or any City or County Department.

Function as technical adviser to all Departments concerning radio facilities, existing or proposed.

Provide adequate representation before the Federal Communications Commission in matters affecting the use of radio. Responsible for obtaining proper construction permits and licenses issued by the FCC.

Prepare such Rules and Regulations affecting Operational procedures and conduct, as are necessary, to bring about conformity with Federal Communications Commission requirements.

Investigate proposed expenditures for radio communication facilities.

Assist and advise the Purchaser of Supplies in standardizing materials, supplies and equipment used for radio communications.

Make necessary recommendations on all plans and specifications for construction of new installations for radio communications by any Department or agency of the City and County.

RADIO ENGINEERING SECTION

The function of the Radio Engineering Section is project planning, project scheduling, budget development, application of communication science, planning disaster communications, monitoring compliance with Rules and Regulations of the Federal Communications Commission, communication system design, contract preparation, requisitioning and coordination of communication requirements for City Departments.

Work accomplishments during the past fiscal year:

POLICE DEPARTMENT

Police Instantaneous Communications System (PIC)

The past year has seen the final phase of the PIC system implemented with the additional engineering installation of two city-wide UHF channels and augmentation of the Base Repeater facilities at Twin Peaks. Satellite receiver facilities were also installed at strategic locations throughout the City.

Additional portables, hand-held type, were added to system. Some of these units were State-provided. Six-channel and others, approximately ninety, were procured by City funds.

Modification schemes were developed to re-engineer antenna systems supporting the PIC network.

We completed field testing of voice privacy mobile facility, procured equipment, and are now effecting installation in vehicles.

Digital Communications Command and Control

The new communications center was completed during the year with multiple console arrangements covering Lo-Band, VHF and UHF communications with patrolmen in cars, motorcycles, aircraft, horse and foot patrol.

Digital communications terminals have been installed in a number of vehicles which interface with terminals and computers at Hall of Justice, State and National Police file data banks.

Police District Stations

Upgrading of communications at district base stations has been accomplished, including addition of control entry to the additional city-wide #2 and #3 UHF channels.

Replacement program of all the old low band district base stations has been started.

District base station radio license was modified, updated and renewed at all applicable locations.

Central Radio Station (CRS)

Conducted numerous radio frequency compatibility surveys with other police and public safety entities to validate recommended frequency changes and additions in Northern California.

FIRE DEPARTMENT

Assisted in providing engineering and technical assistance to the planning of the new Command and Control Fire Communications system.

Conducted frequency compatibility studies on the addition of a mutual aid Fire Channel 154.280.

Requisitioned additional portable units for use at scene of fires.

Developed a frequency utilization plan for Fire Department involving new UHF frequencies pairs in the recently assigned TV channel sharing spectrum.

SHERIFF DEPARTMENT

Provided improved communications coverage of Sheriff's net on Local Government Service.

Continued in study of T.V. surveillance and security project at jail.

Studied and reviewed design possibilities of a baliff's portable communications system.

Procured and delivered portable T.V. recorder and camera.

HEALTH DEPARTMENT

Planned, designed and prepared specifications for the new Special Emergency Radio Telemetry System (SERTS) for San Francisco. This involved many planning meetings with vendors, manufacturers, private ambulance companies, Federal Communication Commission (FCC), area EMS planners, hospitals, consultants for Bay Area EMS and Local Government communications agencies.

Procured and installed a radio facility for the detoxification unit of the public inebriate program.

Developed a radio paging system, on business frequency, at San Francisco General Hospital.

Obtained FCC frequency authorization in new EMS Service for Emergency Medical paging. Equipment has been procured and first phase of system is operational.

Assisted health agencies in further developing San Francisco Hospital Disaster radio net.

Participated in the development of an area-wide EMS Telemetry channel assignment procedure.

SAN FRANCISCO AIRPORT

Consulted with various communications manufacturers and servicing agencies in planning changes of existing mobile radio system at airport area.

Obtained necessary federal licensing for expansion of radio system.

OFFICE OF EMERGENCY SERVICES

Assisted State Office of Emergency Services in planning and conversion of national (weather) warning from Bell and Light to semi-automated system.

Prepared necessary revisions to S.F. RACES plan to support disaster planning.

Procured porta-mobile radio unit for Director of San Francisco Emergency Services.

Assisted in communications planning of proposed consolidated communications facility in Twin Peaks area.

MISCELLANEOUS

Supported Cable Task Force Committee in development of S.F. City government's needs and use of facility.

Worked on further development of expanding radio tower facilities at C.R.S.

Assisted Muni in expansion of their radio communications network for mass transportation.

Assisted School Department in relocation of their FM radio station to an improved location at Twin Peaks (Central Radio Station).

PERCENTAGE OF LABOR ALLOCATED

1974 - 1975

<u>DEPARTMENT</u>	<u>%</u> <u>7368</u>	<u>%</u> <u>7367</u>	<u>HOURS</u> <u>OVERTIME</u>
Police	34.22	51.11	120
Fire	21.74	18.56	36
Dept. of Public Works	.01	1.79	1
Electricity	.01	13.93	5
Health	44.02	1.78	8
Supervisors	-	.40	-
Municipal Railway	-	10.37	7
Coroner	-	.04	-
Water Dept.	-	1.13	8
Harbor Police	-	.02	-
Disaster Corp.	-	.12	-
Mayor	-	.05	-
Miscellaneous	-	.70	-

Hours Overtime 185

Days (Temporary
Employee) 836

Days (Vacation
Relief) 115

RADIO DIVISION
RADIO SHOP ACTIVITIES

- I Mobile Communications Unit Serviced in the Radio Shop
- 3086 - Repaired.
 - 256 - Vehicle Installations.
 - 215 - Old Vehicle Equipment Removal.
 - 114 - Miscellaneous Electronic Repairs.
- II Federal Communications Commission Calibrations
(Includes vehicles, portable units, and base stations)
- 2018 - Units checked and calibrated.
- III Special projects
- 127 - Various, consisting mainly of modifications to new or existing equipment and acceptance checks of new equipment for the Police, Fire, Water, Health, and Disaster Departments.
- IV Preventive Maintenance Services
- 135 - Various Locations.
- V Department Services (Other than preventive maintenance at the following locations)

POLICE DEPARTMENT

- 127 - Hall of Justice.
- 71 - District Base Stations (Police Stations)
- 39 - Central Radio Station.
- 3 - Bernal Heights Radio Station.
- 10 - Various Pawn Shops.

FIRE DEPARTMENT

- 73 - Central Fire Alarm Station.
- 15 - Central Radio Station.
- 67 - Secondary Base Stations (Fire Houses, other Battalion or Division Houses).
- 37 - District Base Stations (Battalion or Division Headquarters).
- 257 - Heavy Apparatus Field Repairs.
- 65 - Electronic Door Opener Repairs.
- 4 - Field Repairs to (2) Fire Boats.

RADIO DIVISION

Municipal Railway

- 957 - Repairs to Motor Coaches and Trolley Coaches.
- 18 - Base Station Repairs.
- 7 - Central Control Repairs.
- 18 - Car Barn P.A. System Repairs.

Water Department

- 11 - Repairs at Newcomb Street Yard.
- 3 - Repairs at Mason Street Control and Lake Merced.
- 1 - Repairs at Central Radio Station.

Health Department

- 9 - 101 Grove Street - 20 Chan. Recorder.
- 35 - Repairs to Ambulances.
- 3 - 101 - Grove Control Station.

Department of Electricity

- 2 - Central Fire Alarm Station.
- 3 - Central Radio Station.
- 2 - 901 Rankin Street

Coroner

- 2 - Repairs to Autopsy Room Recording Systems.

Department of Public Works

- 1 - Repairs Central Radio Station.
- 3 - Repairs - Army Street Consoles.

Sheriff

- 1 - Hall of Justice - County Prison consolette.
- 1 - San Bruno " " "

City Hall

- Supervisors P.A. System
- 8 - Repairs or adjustments.

RADIO DIVISION

MOBILE TWO-WAY RADIO UNITS

SERVICED BY RADIO SHOP

<u>Department</u>	<u>No. of Radio Equipped Vehicles Or Portables</u>	<u>Total Radios Maintained</u>
<u>Police</u>		
Cars and Trucks	376	
Solo Motorcycles	91	
Servicar Motorcycles (including scooters)	144	
Portables (Low Band, High Band and UHF)	600	
Command Car	1 (8 radios)	
Helicopters	2 (6 radios)	1233
<u>Fire</u>		
Cars and Apparatus	213	
Fire Boats	2 (3 radios)	
Command Car	1 (5 radios)	
Portables (UHF)	61	
Portables (Citizen Band)	3	
Portables (Paging Rcvr.)	4	
Portables (VHF)	4	293
<u>Water Department</u>		
Cars and Trucks	120	
(includes 1 Game Warden's Car)		
Portables (Low Band)	2	
Portables (Paging Rcvr.)	7	129
<u>Department of Public Works</u>		
Cars and Trucks	62	
Portables (Citizen Band)	12	76
Portables (Lo Band)	2	
<u>Municipal Railway</u>		
Cars and Trucks	56	
Trolleys	66	
Motor Coaches	507	
Portables	36	665

RADIO DIVISION

<u>Department</u>	<u>No. of Radio Equipped Vehicles or Portables</u>	<u>Total Radios Maintained</u>
<u>Department of Electricity</u>		
Cars and Trucks	33	
Portables (Citizen's Band)	2	35
<u>Health Department</u>		
Ambulance	15	
Station Wagons	3	
Car	2	
Personnel-Carrier-(MAP)	1	
Portables	13	
Portable (Paging Rec.)	9	45
Ambulatory & Transportation Station Wagons	4	
<u>*Special Police</u>		
Cars	23	
Portables	6	29
<u>Emergency Services</u>		
Cars	3 (4 radios)	
Communication Van	1 (13 radios)	
Portables (Citizen Band)	3	21
Portable - VHF	1	
<u>Coroner</u>		
Cars and Ambulances	4	4
<u>Harbor Police</u>		
Cars	2	
Servicar Motorcycles	2	4
<u>Sheriff</u>		
Cars	20	
Bus	5	
Portables	11	36
<u>Park and Recreation</u>		
Cars	16	
Trucks	12	
Portables (Citizen Band)	3	31
<u>Mayor's Office</u>		
Cars	1	1

* Federal Communications Commission Calibration only

RADIO DIVISION

<u>Department</u>	<u>No. of Radio Equipped Vehicles or Portables</u>	<u>Total Radios Maintained</u>
<u>Housing Police</u>		
Cars	5	
Portables	3	8
<u>City College & School District</u>		
Portables	14	14
<u>Police Chaplains</u>		
Cars	3	3
<u>Police Commission</u>		
Cars	3	3
<u>Fire Commission</u>		
Cars	1	1
<u>Chief Administrative Officer</u>		
Car	1	1
<u>District Attorney</u>		
Car	2	1
City Attorney	1	1
<u>*Federal Bureau of Investigation</u>		
Cars	3	3
 TOTAL - Mobile and portable radios		 2630

*Federal Communications Commission calibration Only.

RADIO DIVISION

Base Stations Maintained

Police Department

At Central Radio Station	6 low band units 3 high band units 4 UHF units 1 microwave terminal
At Bernal Heights Station	2 low band units
At Hall of Justice	2 high band units 1 UHF unit 1 microwave terminal
At Police Station, Pistol Range and Stables	11 low band units 9 UHF units
At Bank of America	1 UHF unit

Fire Department

At Central Radio Station	2 low band units 2 high band units 1 microwave terminal
At Central Fire Alarm Station	1 high band unit 1 microwave terminal
At Fire Houses, and Airport	16 low band units

Emergency Service

At Emergency Operating Center	2 low band units
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Water Department

At Central Radio Station	2 low band units 1 UHF unit
At Bernal Heights Station	2 low band units
At Lake Merced	1 low band unit

*Housing Authority

At Central Radio Station	1 UHF unit
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*Federal Communications Commission Calibration only.

RADIO DIVISION

Municipal Railway

At Central Radio Station	2 low band unit
At Forest Hill Blockhouse	4 low band units

Health Department

At 101 Grove Street	1 high band unit
At San Francisco General Hospital	2 high band units
At Central Radio Station	2 high band units
At Laguna Honda Hospital	2 high band units
At 5033-3rd Street	1 UHF unit

Harbor Police

At Ferry Building	1 low band unit
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Sheriff

At Hall of Justice	
At County Prison	1 high band unit
San Bruno County Prison	1 high band unit
At City Hall	1 high band unit

Department of Public Works

At Central Radio Station	2 low band units
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Department of Electricity

At Central Radio Station	2 high band units
At Central Fire Alarm	1 high band unit
At Bernal Heights	1 high band unit
At 901 Rankin	1 high band unit

Park and Recreation

At McLaren Lodge	1 high band unit
At Maintenance Yard Golden Gate Park	2 high band units

Total	102
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DEPARTMENT OF ELECTRICITY

RADIO COMMUNICATIONS
(VOICE, DIGITAL, TELEMETRY)



ANNUAL
REPORT
ENDING
JUNE 30,
1976



CITY AND COUNTY OF SAN FRANCISCO

DEPARTMENT OF ELECTRICITY

OFFICE OF THE
GENERAL MANAGER

AREA CODE 415
558-4485

August 12, 1976

901 RANKIN STREET
SAN FRANCISCO 94124

Mr. Thomas J. Mellon
Chief Administrative Officer
269 City Hall
San Francisco, California

Dear Mr. Mellon:

In accordance with the provisions of Section 3.501 of the City and County of San Francisco, I am pleased to submit the annual report of the Department of Electricity for the Fiscal Year 1975-76.

I realize that this report will reach your office subsequent to your retirement, and I take this opportunity to express my sincere thanks for your many years of dedication and service to the citizens of our City. I recognize that while this phase of your service is drawing to a close, there are many other avenues through which you will continue to serve our citizens.

The Department continued to fulfill its responsibilities and perform its function through organization into five divisions: Administrative (including Accounting), Electrical, Mechanical, Radio and Fire Alarm Operation.

The cost of operating the Department of Electricity during the Fiscal Year 1975-76 was 4.7% greater than for Fiscal Year 1974-75, and was \$117,637 more than last year.

Expanding, improving and upgrading the communications systems for all City departments continued throughout the year.

I sincerely appreciate the help and understanding extended by you and your staff during all your years as Chief Administrative Officer. Please be assured of my continued cooperation, support and service to your successor.

I wish to commend the employees of our Department of Electricity for their continued dedication in providing service to the various departments and to the citizens of San Francisco.

Again, Mr. Mellon, I wish you a very happy, successful and productive future.

Respectfully submitted,

Burton H. Dougherty
BURTON H. DOUGHERTY
General Manager
Department of Electricity

ANNUAL REPORT
DEPARTMENT OF ELECTRICITY

CITY AND COUNTY OF SAN FRANCISCO

FISCAL YEAR 1975-76

HON. GEORGE R. MOSCONE
MAYOR

THOMAS J. MELLON
CHIEF ADMINISTRATIVE OFFICER

BURTON H. DOUGHERTY
GENERAL MANAGER

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ACCOUNTING (ADMINISTRATION)

The Senior Accountant, under the direction of the General Manager is responsible for the Accounting (Administration) Division. The Division is composed of three Department of Electricity personnel and one Storekeeper from the Purchasing Department. In addition to Accounting functions, various administrative tasks are assigned which require a portion of the services of *two additional personnel. The personnel are as follows:

- 1 - 1652 Senior Accountant
- 1 - 1650 Accountant
- 1 - 1630 Account Clerk
- 1 - 1934 Storekeeper
- *1 - 1446 Senior Clerk Stenographer
- *1 - 1424 Clerk Typist

For functional use, the Division maintains an orderly system of recording costs and revenues which are compiled and reported to management in timely periodic reports.

For cost control of labor, material, services, and equipment, the Division maintains approximately seventy cost accounts, as well as accounting for individual budgetary line items. Also, the Division, during the Fiscal Year 1975-76, compiled costs for 241 individual work orders, special jobs, and projects, an increase of 2% as compared to Fiscal Year 1974-75.

During 1975-76, 167 billings, in the amount of \$83,227 were made to cover Special Jobs, Installation Funds, and damages to City property. Comparison with previous year is as follows:

	<u>1975-76</u>	<u>1974-75</u>	<u>%Increase (Decrease)</u>
No. Billings	167	153	9.15%
Amount of Billings	\$83,227	\$51,843	60.54%
Damages Billings	\$58,965	\$39,064	50.94%
Other Billings	\$24,262	\$12,779	89.86%

ESTIMATED AND COMPARATIVE REVENUE

	Estimated Revenue <u>1975-76</u>	Collections - Cash Received <u>1975-76</u>	<u>1974-75</u>	And % Increase (Decrease)
Damage Claims - Traffic Signals. Note A	\$16,000	\$33,926	\$24,489	38.54%
Damage Claims - Parking Meters. Note B	5,000	3,260	3,224	1.12%
Damage Claims - Police & Fire Alarm Facilities. Note B	3,000	582	2,474	(76.48%)
Housemoving Electrical Inspection. Note C	30	19	18	5.56%
 TOTAL	 <u>\$24,030</u>	 <u>\$37,787</u>	 <u>\$30,205</u>	 25.1%

COMMENT

Collections include all Department of Electricity Revenue collected by this Department or another.

NOTES

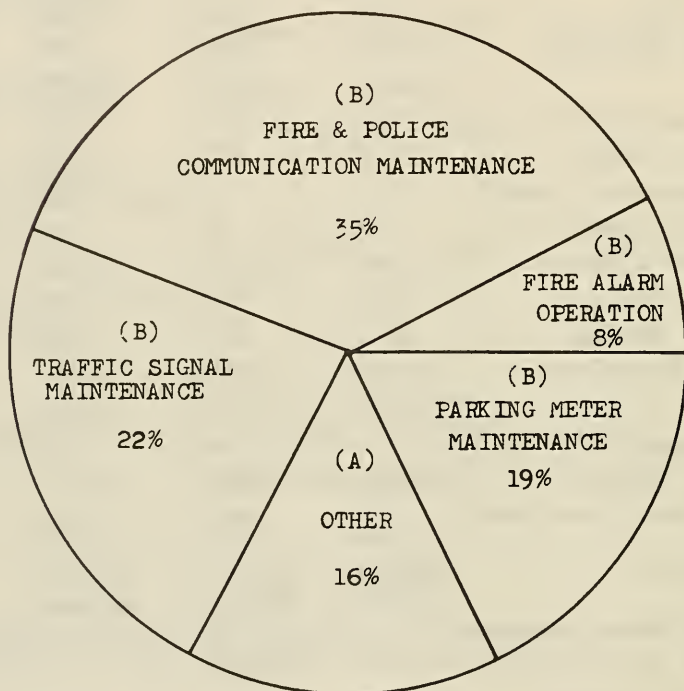
- (A) Recovery of damages is deposited to Road Fund.
- (B) Recovery of damages is deposited to General Fund.
- (C) Collections offset actual cost for each inspection of overhead line wires.

COMPARATIVE EXPENSE STATEMENT

AS OF JUNE 30, 1976

<u>Budget Description:</u>	<u>Expense</u> <u>1974-75</u>	<u>Expense</u> <u>1975-76</u>	<u>Allowance</u> <u>1975-76</u>	<u>Balance</u> <u>1975-76</u>
Permanent Salaries	\$ 585521	579294	694944	115650
Overtime Pay	8250	13667	15156	1489
Holiday Pay	7706	7608	7608	0
Temporary Salaries	12200	9300	9300	0
Wages	1346203	1422397	1575377	152980
Contractual Service	4117	3662	3727	65
Automotive Repair	15319	14823	16294	1471
Office Equipment Repair	-	87	150	63
Reproduction Service	484	451	600	149
Light Heat & Power	13847	14381	15285	904
Telephone Service	8024	8015	8400	385
Scavenger Service	1212	1211	1220	9
Material & Supplies	123397	127176	130651	3475
Equipment	12780	21565	22020	455
Fixed Charges	416	349	416	67
Mandatory Fringe	356742	389296	441277	51981
Serv.of other Departments	7430	8003	8153	150
Total Budget	<u>2503648</u>	<u>2621285</u>	<u>2950578</u>	<u>329293</u>
Increased Budget Expense		117637		
Increased % Over 1974-75		<u>4.7%</u>		
<u>Other Description:</u>				
Interdepartmental W.O.	\$ 134354	113591	1072490	958899
Installation Jobs	2286	2193	2470	277
Private Contractor Jobs	7194	9260	10933	1673
Total Other	<u>\$ 143834</u>	<u>125044</u>	<u>1085893</u>	<u>960849</u>
Decreased Other Expense		(18790)		
Decreased % Over 1974-75		13%		
Total Budget & Other	<u>\$2647482</u>	<u>2746329</u>	<u>4036471</u>	<u>1290142</u>
Total Increased Expense		98847		
Total Increased % Over 1974-75		<u>3.73%</u>		

DEPARTMENT OF ELECTRICITY COST BREAKDOWN 1975-1976



(A) Cost (Reimbursed) - Special Jobs and Interdepartmental Work Orders

(B) Budget Cost

COMMENTS

Maintenance includes all damages without offset for collections.

Fire and Police Maintenance includes: Radio Maintenance and Engineering, Electrical Overhead Construction, Teletype and Telephone Systems, Switchboard and related equipment at the Hall of Justice, and all Fire House Stations.

Administrative and overhead costs are assigned to the above functions on a pro rata cost basis.

FIRE ALARM OFFICE

The Central Fire Alarm Office, at 1003 Turk Street, is responsible for receipt of alarms and the dispatching of fire apparatus. The operation of the entire fire alarm telegraph system of San Francisco is centered in this office. Fire Alarm personnel also receive trouble complaints and dispatch repairmen in connection with emergency repairs to traffic signals, police and fire communication system, test defective circuits and initiate restorative actions, monitor and operate the Civil Defense siren warning system.

Personnel assigned to the Fire Alarm Office consist of the following:

- 1 - Chief Fire Alarm Dispatcher
- 9 - Fire Alarm Dispatchers
- 4 - Senior Telephone Operators

FIRE ALARM OPERATIONS

Fire Alarm circuits in service, including	
1 PTT leased line to Treasure Island	70
In service - Dept. of Electricity Boxes	1969
Pacific Fire Extinguisher in service with trouble signals	34
Pacific Fire Extinguisher in service without trouble signals	9
	<hr/>
Total Boxes	2012

(A decrease of 28 Boxes)

Fire Boxes pulled for test including	
1202 school boxes	7691
Fire Alarm Boxes out of service temporarily, relief box in service	155
Fire Alarm Box out of service temporarily	81
Fire Alarm Box out of service permanent	34
New Fire Alarm Box in service	2
Fire Alarm Box transfer to another circuit	2
Police call boxes in service - no increase/decrease	469

The following summarizes complaints received from the Police Department, other Municipal Agencies and private citizens concerning equipment listed:

Fire Alarm Circuits	270
Fire Alarm Boxes	69
Police Call Box Locals	71
Police Call Boxes	103
Police Teletype	6
Signal Registers	142
Radio Equipment	12
Civil Defense Sirens	3
Traffic Signals	2085
Misc. Equipment	177
	<hr/>
Total Complaints	2938

FIRE ALARM OPERATIONS - Continued

The following summarizes the activities of the Central Fire Alarm Office for the Fiscal Year ending June 30, 1976:

<u>Alarms of Fire</u>	<u>No. Received and Transmitted</u>
First	18,012
Second	109
Third	28
Fourth	7
Fifth	3
Direct	1,356
Still	15,702
Total Alarms	35,217

An increase of 2,953 alarms over Fiscal Year 1974-1975.

Secondary signals transmitted covering alarms of fire and routine operational business of the Fire Department: 174,104

This indicates an increase of 18,276 in comparison with statistics for Fiscal Year 1974-1975.

FALSE ALARMS

	<u>Fiscal Year 1975-1976</u>	<u>Fiscal Year 1974-1975</u>	<u>Increase + Decrease -</u>
Still Alarms	15,702	13,822	+ 1,880
False Still Alarms	141	101	+ 40
Still Boxes (Telephone Alarms)	4,148	4,022	+ 126
False Still Boxes	431	533	- 102
Street Boxes	13,908	12,960	+ 948
False Street Boxes	10,155 10,924	10,155	+ 769

ELECTRICAL DIVISION

SUMMARY

The Electrical Division is responsible for the construction, maintenance and repair of:

Central Fire Alarm Station: includes box alarm switchboard, alarm dispatch equipment, main battery bank, rectifiers, emergency generators and all electrical fire alarm communications apparatus and circuitry.

Fire Alarm Circuits originating at the Central Fire Alarm Station: to 2012 fire alarm boxes throughout the City. These fire alarm boxes are tested every 60 days.

Circuits for the transmission of fire alarm signals from the Central Station to all fire stations in the City.

Fire Alarm Equipment: in 44 Fire Stations, 2 Pump Stations, Ashbury Tank, Jones St. Tank, Fire College, Fire Boat and Fire Department Headquarters.

Auxiliary Fire Alarm Systems: This Division tests, approves and supervises the connection of auxiliary fire alarm systems to the Municipal System by Fire Alarm Companies legally authorized by franchise or permit to install and maintain auxiliary fire alarm systems in San Francisco.

School Auxiliary Systems: Personnel of this Division inspect and test with the Central Fire Alarm Station the auxiliary systems in 115 public schools once each month. Also, they assist School District personnel with acceptance tests of auxiliary systems being installed in schools under public contract.

Police Department Emergency Telephone System: consisting of a two-position switchboard with circuits to 469 call boxes located throughout the City and 79 phones in the Hall of Justice and at various bureaus and stations throughout the City.

Police Teletype System: Consisting of two teletype transmitters and a control console in the Hall of Justice with circuits to printers throughout the Hall of Justice and at various bureaus and police stations throughout the City.

Traffic Signals: at 897 intersections, together with their synchronizing equipment and associated cables.

Air Raid Sirens: at 53 locations throughout the City, including their remote control equipment.

ELECTRICAL DIVISION - Continued

Overhead Lines and Underground Cables: The Electrical Division is responsible for the maintenance, repair and replacement of all overhead lines and underground cables relating to Fire Alarm and Police Communications Systems throughout the City's 49 square mile area.

Fire Department Command and Control Project: During the Fiscal Year this Department installed a new Fire Alarm Switchboard in a temporary room in the basement of the Central Fire Alarm Station. Upon completion, all existing fire alarm facilities on the main floor was transferred to a temporary operations room in the basement. After complete remodeling of the main floor which included computer flooring, new ceiling, required partitioning and air conditioning, a complete new computerized fire alarm dispatch system was installed on the main floor by the contractor. During June of 1976, the new box alarm switchboard and essential units of the existing telegraphic-type fire alarm system was reinstalled on the main floor. This system will continue in service until the new system has been tested, accepted, and its reliability established over a reasonable period of time.

ELECTRICAL DIVISION

PERMANENT PERSONNEL

- 1 - 7131 Electrical Maintenance and
Construction Superintendent
- 1 - 5352 Electrical Engineering Assistant II
- 1 - 7273 Lineman General Foreman
- 1 - 7257 Lineman Foreman
- 3 - 7308 Cable Splicers
- 13 - 7338 Lineman
- 1 - 7276 Electrician General Foreman
- 2 - 7238 Electrician Foreman
- 13 - 7345 Electricians
- 4 - 7514 Laborers

Days worked by temporary personnel in the fiscal year due to work orders and special projects:

235 Linemen

253 Cable Splicer Foreman

FIRE ALARM SYSTEM

Maintained equipment and apparatus in Central Fire Alarm and in 44 Fire Stations.

Repaired or replaced in Fire Stations:

122 Registers

35 Fire Bells

50 Automatic Light Switches

Fire Alarm Boxes - Installations, Removals and Relocations:

2 - New Installations

4 - Relocations

32 - Removals (Due to high incidence of false alarms)

Field repairs were made to 27 fire boxes.

Repaired or replaced fire boxes damaged by vehicles at 41 locations.

ELECTRICAL DIVISION

Fire Alarm Box tests totaling 7691 were made in accordance with the rules of the National Board of Underwriters.

Replaced approximately 20 old-style fire boxes with modern 3-fold non-interfering type.

Located and cleared 264 cases of trouble on overhead and underground fire alarm circuits.

Transferred overhead fire alarm and police communications circuits to new poles at 68 locations as required due to the work program of the P.G. & E. Co.

Replaced 18351 feet of underground cable of various sizes as required.

Repaired and respliced underground cable at 270 locations.

Repaired underground conduit damaged by street improvement contractors at 11 locations.

AUXILIARY FIRE ALARM SYSTEMS

Inspected and tested with the Central Fire Alarm on a monthly basis the auxiliary fire alarm systems in 115 public schools.

Responded to 83 complaints and assisted School District Personnel with repairs as required.

Assisted personnel of the following agencies with monthly testing of auxiliary fire alarm systems:

San Francisco Port Authority
University of California Hospital
Municipal Railway - Kirkland Yard
Hunters Point Navy Yard

Responded to complaints and repaired as required outside local fire alarm facilities at the Coast Guard, Hall of Justice, Examiner and Chronicle Building.

In cooperation with the traffic section and the Resident Engineer conducted monthly tests of the traffic signals and fire alarm system in the Broadway Tunnel.

Cooperated with the Bureau of Architecture, San Francisco Unified School District and the S.F. Division of Fire Prevention in the testing and acceptance of auxiliary fire alarm systems in new or reconstructed schools, prior to connection to the Municipal Fire Alarm System.

ELECTRICAL DIVISION

POLICE DEPARTMENT

Maintained emergency switchboard at the Hall of Justice with 79 telephones within the Hall and 466 call boxes located on the City streets.

Chief of Police private telephone system.

Visitors' telephones in the City and County Jails.

Police teletype system.

Located and cleared trouble on overhead and underground police communications circuits at 150 locations.

removed for repair and replaced police telephones at 61 locations.

CENTRAL RADIO STATION

Maintained and conducted regular tests on the two emergency generators.

Checked tower lights daily, entered in log as per FCC regulations.

Replaced lamps and serviced photo cell equipment as required.

Conducted security inspections of the radio station area during the hours of darkness.

Maintained land lines between the Central Radio Station and the control units located in the Hall of Justice, Central Fire Alarm Station and various other City Departments which use the City and County Radio System in their daily operation.

MAYOR'S OFFICE OF EMERGENCY SERVICES

Maintained and repaired air raid warning sirens at 53 locations.

Removed 6 air raid sirens to the shop for complete overhaul and painting. After restoration, these sirens were reinstalled at their original locations.

Relocated air raid siren and pole at Euclid and Cook.

Removed air raid siren from Sarah B. Cooper School while building is being replaced.

Disconnected siren control circuits at numerous locations as requested by the P.T.&T. Co. to facilitate repairs to their underground cable systems without the possibility of setting off the air raid sirens.

ELECTRICAL DIVISION

REDEVELOPMENT PROJECTS:

Hunters Point

Installed new fire alarm cable in new conduit system provided by the Redevelopment Agency. Installed new fire alarm boxes as requested by the Fire Department, based on progress of construction. Removed existing overhead lines as required.

India Basin

Converted Department of Electricity overhead fire alarm facilities from an overhead to an underground system as required, based on progress of conduit installation by Department of Public Works.

MISCELLANEOUS WORK:

Rearranged Department of Electricity overhead facilities on utility poles due to the installation of cables by Television Signal Corp.

Surveyed and checked Department of Electricity underground facilities and marked their location on the surface of the street in connection with the work programs of the P.G. & E.-P.T. & T. Companies, City and County water, sewer projects and street improvement contracts.

The Electrical Division during the Fiscal Year completed the installation of 50,000 feet of overhead and underground cable required to provide a new circuit for voice and teletype to each of the City's 44 fire houses and 9 associated agencies of the Fire Department.

ELECTRICAL DIVISION

TRAFFIC SIGNAL MAINTENANCE

The traffic signal personnel responded to 2042 complaints from various sources of malfunction of traffic signals. This figure represents a lessening in complaints compared to the average of prior years, despite addition of many new signalized intersections.

The new intersections added to the traffic signal network in the Fiscal Year are as follows:

Bay & Stockton	Polk & Union
North Point & Polk	Broderick & Fulton
North Point & Taylor	Baker & Hayes
North Point & Hyde	Stockton & Vallejo
21st & Valencia	12th & Judah
Carl & Stanyan	Funston & Judah
Anza & Stanyan	California & Baker
Parker & Turk	25th & South Van Ness
Lincoln & 25th	Columbus & North Point
19th & South Van Ness	Columbus & Mason
Folsom & Precita	Bay & Embarcadero
21st & Folsom	Beach & Hyde
23rd & Guerrero	Cortland & Bocana
Haight & Steiner	Mission & Appleton
Fulton & Steiner	Geneva & Freeway 280 (East)
	Geneva & Freeway 280 (West)

Signalized intersections in service as of June 30, 1976 were 897.

There were 91 complaints of damages reported. These involved knocked-down traffic signals, traffic controllers and pedestrian signals. Budgeted funds were used to effect repairs, and funds obtained from the responsible parties are returned to the general fund.

Work Orders in the amount of \$28,720 were performed for other Departments involving installations and relocations of traffic signals.

Special Jobs in the amount of \$7,740 were performed for private contractors involving relocation of traffic signals to facilitate construction projects.

ELECTRICAL DIVISION

FIELD OPERATIONS

Checked Operations	- - - - -	794
Controllers Changed	- - - - -	395
Relays Changed	- - - - -	582
Coordination Units Changed	- - - - -	48
Intersections Mass Relamped	- - - - -	555
Master & Cascade AM Offsets Checked	- - -	832
Master & Cascade FM Offsets Checked	- - -	929
Dial Units Changed	- - - - -	93
Damaged Conduit & Wiring Repaired	- - -	208
Detector Pads Changed, 6 ft.	- - - - -	6
Steel Pole, 10 ft. Changed	- - - - -	41
Marbelite Pole, 10 ft. Changed	- - - - -	13
Signal Heads Changed	- - - - -	197
Signal Lens & Reflectors Replaced	- - -	106
Signal Heads Realigned	- - - - -	283
Visors Replaced	- - - - -	234
Visors Repaired	- - - - -	291
Flashers Changed	- - - - -	120
Controller Cabinet Replaced	- - - - -	47
Controller Cabinet Repaired	- - - - -	81
Pedestrian Signals Repaired	- - - - -	166
Checked Timing and Placed Timing Cards	- - -	476
Coordination Units Repaired	- - - - -	117

LAMP, TUBE AND TRANSFORMER REPLACEMENTS:

WAIT Tube	- - - - -	50
WALK Tube	- - - - -	111
DON'T WALK Tube	- - - - -	21
Transformers	- - - - -	53
TURN Tube	- - - - -	5
67 Watt Lamps	- - - - -	15,473
Grid Tubes	- - - - -	160

SHOP OPERATIONS:

Controllers Serviced	- - - - -	438
Dial Units Serviced	- - - - -	336
Relays Serviced	- - - - -	556
Flashers Serviced	- - - - -	177
Signal Heads Serviced	- - - - -	284
Coordination Units Serviced	- - - - -	124
Cabinets Serviced	- - - - -	78

ELECTRICAL DIVISION

PROJECTS

The Traffic Signal personnel assisted the electrical contractors working on Market St. Reconstruction integrate the new controllers and signals from Fremont to McCoppin.

3rd & Galvez - Relocated master cable conduit due to new construction on India Basin Project.

Removed surplus pedestrian signals as directed by Traffic Engineer at the following intersections:

California & Webster
California & Leavenworth
California & Taylor
California & Grant

Fulton Street at Arguello, 25th, 30th, 36th and 43rd - Installed temporary traffic signals and poles on various corners while permanent signals were removed from trolley poles that were to be replaced. After trolley poles were replaced, the traffic signals were installed permanently on them and temporary traffic signals and poles were removed.

Bay & Hyde - A new preempt controller was built and installed to provide green, amber and red operation and also was coordinated with Bay Street Signal System.

At the following intersections semi-actuated controllers and related equipment were replaced with fixed time controllers:

Mission & Excelsior	30th & San Jose
Mission & Onondaga	24th & Bryant
Mission & Ocean	Geary & Scott
Mission & Richland	Geary & Baker
Bayshore & Leland	29th & San Jose
Bayshore & Visitacion	3rd St. & Palou

Sansome at Clay & Washington - Two new preempt controllers were built and installed to be preempted by Fire Station #13.

Mission & Dubose - Installed 4 pedestrian signals in north cross walk.

Sutter & Buchanan - Removed two vehicle signals that were no longer needed due to the new Mall in the Nihonmachi.

Two flashing intersections that are actuated by pedestrian pushbuttons were installed at the following:

Cortland & Bocana
Mission & Appleton

MECHANICAL DIVISION

MANUFACTURE, MAINTENANCE AND REPAIR

Under the general administrative direction of the General Manager, the Machine Shop and Parking Meter Superintendent directs and supervises all maintenance and repair to all mechanical equipment under the jurisdiction of the Department of Electricity. New parts are manufactured as necessary. The equipment includes the following:

- 1) 1969 Fire Alarm Boxes
- 2) 469 Police Patrol Boxes
- 3) 79 Office Set Phones
- 4) 897 Traffic Signals
- 5) All mechanical equipment at the Central Fire Alarm Station, Central Radio Station, Hall of Justice Communication's Room, and the Plant at 901 Rankin Street, including 5 emergency gas driven generators at the above and Youth Guidance Center, Bernal Heights.
- 6) 15,669 Parking Meters
- 7) 54 Emergency Warning Sirens
- 8) 56 pieces of gas driven equipment - 49 mobile and 7 stationary. The major repairs of the above equipment were done at the Purchasing Shops. The servicing of the equipment was done by one part-time Automotive Serviceman at 901 Rankin Street.
- 9) The maintenance of three Departmental Buildings: Plant, 901 Rankin Street, Central Fire Alarm Station, 1003 Turk Street, and Central Radio Station, Twin Peaks was directed by the Machine Shop and Parking Meter Superintendent, though the majority of the work was accomplished by the Department of Public Works, or through contractual services.

MECHANICAL DIVISION

Manufactured:

- 1) Three-fold non-interfering Fire Alarm Boxes were manufactured to replace obsolete Fire Alarm Boxes in the new Underground Districts. New and replacement parts for Fire Alarm Boxes, Police Patrol Boxes, Registers, Instruments, and Parking Meters were manufactured in the Machine Shop as needed.
- 2) Approximately 320 new parking meter installations were made. Area one and area two have rates of nickel, dime and quarter. Area three and four still have penny, nickel and dime rates. Revenue from parking meters has decreased by \$101,861 for a total of \$2,319,760.38. As of June 30, 1976, the total installation of parking meters was 15,669.
- 3) Special mechanical fixtures and apparatus were designed and manufactured to produce functional improvement. Miscellaneous tool and die, experimental projects and equipment tests were undertaken and completed.

Maintenance and Repair

Necessary and vital repairs were made to all mechanical equipment. The Mechanical Division works in close harmony with the Plant, Electrical, Traffic, and Radio Divisions of the Department of Electricity and with other Departments of the City to better serve the public.

Painting

Fire Alarm Boxes, Police Patrol Boxes, Traffic Signals, Controllers, Parking Meters and other miscellaneous equipment were prepared and painted in the shop and field. Due to a shortage of personnel, we are on a four to five year painting cycle, rather than a two year cycle recommended for some of the above equipment.

Other Duties

Data was compiled for the annual budget, necessary specifications for machinery and automotive equipment were written, and requisitions for equipment and supplies were made. Reports and correspondence related to Mechanical Division were processed. Records on all Mechanical equipment and Parking Meter field and shop services were kept.

MECHANICAL DIVISION

The personnel assigned to Mechanical Division were as follows:

- 1 - Machine Shop and Parking Meter Superintendent
- 1 - Maintenance Machinist Foreman
- 11 - Maintenance Machinists
- 1 - Parking Meter Repairman Foreman
- 19 - Parking Meter Repairmen
- 3 - Painters
- 1 - General Laborer Foreman
- 1 - Laborer
- 1 - Clerk Typist
- 1 - Janitor
- 1 - Automotive Serviceman

41 TOTAL

PERCENT OF PERSONNEL ALLOCATED - VARIOUS DIVISIONS

No.	Class	Title	Fire	Police	Traffic	Radio	Parking Meters	Air Raid & O.D.	Misc.
1	7123	Machine Shop and Parking Meter Supt.	23	10	15	5	39	1	7
1	7258	Maintenance Machinist Foreman	30	10	10	10	30	1	9
11	7332	Maint. Machinists	30	5	10	9	40	1	5
1	7215	Gen. Laborer Fore.					100		
1	7514	Gen. Laborer					100		
1	7243	Parking Meter Repairman					100		
19	7444	Parking Meter Repairman					100		
3	7346	Painter	1-70	1-15	2-100	1-3	1-7		1-5
1	7410	Automotive Serviceman	30	15	25	10	15		5
1	1424	Clerk Typist	5	4		1	88		2

MECHANICAL DIVISION

SUMMARY OF ACTIVITIES

Total Numbers
1975-76

Manufactured Fire Alarm Boxes, parts and related equipment	5,443
Repaired Fire Alarm Boxes, parts and related equipment	712
Manufactured Police Call Boxes and related equipment	550
Repaired Police Telephones and related Communications equipment	270
Manufactured Traffic Signal parts and Special Tools	792
Repaired Traffic Signals, parts and related equipment	620
Manufactured and repaired miscellaneous radio equipment items	1,128
Miscellaneous items manufactured and repaired for Plant and vehicular equipment	996
Manufactured jigs, fixtures, tools, stamping dies and patterns for Machine Shop production and maintenance work	37
Manufactured miscellaneous parking meter parts	7,639
Repaired parking meter cases, mechanisms, timers, and miscellaneous parts	5,290
All Registers and Emergency Generators serviced weekly; all Tappers, Jokers and Repeaters serviced monthly at the Central Fire Alarm Station, 1003 Turk St. (plus related equipment)	3,420
Emergency Warning Sirens completely overhauled, and painted	4

MECHANICAL DIVISION

PAINTING - FIELD AND SHOP

The following items have been prepared, primed and finish coated:

1975-76

FIRE ALARM SYSTEM

Fire Alarm Boxes - Field and Shop 482

Fire Alarm Box Posts, Bases, Inner Shells,
Sockets, Movement Housings, etc. - Field and Shop 920

POLICE COMMUNICATION

Police Call Boxes - Field and Shop 130

Miscellaneous items - Shop 45

TRAFFIC SIGNALS

Vehicular Signals - Field 1,019

Signal Controllers - Shop 140

Signal Controllers - Field 105

Signal Controllers, Doors, Posts, Bases, etc. - Shop 95

Walk-Wait Pedestrian Signals - Field 342

Walk-Wait Pedestrian Signals - Shop 25

Push Button Pedestrian Signals - Field and Shop 26

Signal Posts, Poles, etc. - Field and Shop 304

Traffic Signal Visors and Louvers - Field and Shop 430

RADIO DIVISION

Miscellaneous Radio Equipment - Shop 96

PARKING METERS

Parking Meter Cases - Shop 136

MISCELLANEOUS PAINTING AT PLANT, 901 RANKIN STREET,
CENTRAL FIRE ALARM, 1003 TURK STREET, AND CENTRAL
RADIO STATION, TWIN PEAKS

Cabinets, Siren Parts, Ladders (oiled-shellacked), Brackets,
Radio Equipment, Parts, Aluminum Strips, Redwood Moulding,
touch-up, etc.

MECHANICAL DIVISION

SUMMARY OF ACTUAL ANNUAL REPAIRS TO PARKING METERS

	Units
Intentionally Jammed Meters Cleared	145,182
Cases Cleaned	2,331
Damaged Meters Removed	439
Exchange Heads	104
Exchange Mechanisms	4,440
Exchange Mechanisms for Cleaning	211
Exchange Timers	629
Hoods Removed	3,771
Lock Open Coin Doors	95
Loose Heads	477
Loose Mechanisms	74
Mechanical Adjustment Mechanisms	9,868
Mechanical Adjustment Cases	4,478
Meters Installed	333
Meters Removed from Service	159
O.K. Requested Inspections	4,583
Install Glass Gaskets	212
Replace Coin Glass	1,203
Replace Coin Lock	189
Replace Parts to Cases	5,300
Replace Parts to Mechanisms	612
Replace Signal Glass	1,638
Stuck Coins	7,336
Service Coin Door	6
Service Coin Lock	994
Stuck Indicators	333
Stuck Signals	1,049
Stuck Timers	707
Unwound Main Springs	4,735
Winding Hole Plugged	255
Parking Meter Heads Replaced	1,083
Checked for Traffic Fines Bureau	5,770
Machine Shop Repairs on Cases	2,298
Mechanisms Cleaned and Overhauled	4,291
Temporarily Out of Service	162
Repair Timers	625
Parking Meter Posts Straightened	2,017
" " " Removed	107
" " " Relocated	66
" " " Installed	461
" " " Replaced	496
" " " Reset	705
Parking Meter Complaints received by telephone:	
Tax Collector's Office	2,467
Police Department	3,038
Total	225,329

MECHANICAL DIVISION
INVENTORY OF PARKING METERS

AS OF JUNE 30, 1976

<u>District</u>	<u>Number</u>	<u>Number in Off-Street Parking Lots</u>
A	<u>955</u>	<u>69</u>
B	<u>882</u>	<u>119</u>
C	<u>781</u>	<u>0</u>
D	<u>883</u>	<u>40</u>
E	<u>778</u>	<u>0</u>
F	<u>1018</u>	<u>82</u>
G	<u>805</u>	<u>0</u>
H	<u>698</u>	<u>0</u>
I	<u>505</u>	<u>0</u>
J	<u>933</u>	<u>0</u>
K	<u>1017</u>	<u>0</u>
L	<u>583</u>	<u>31</u>
M	<u>733</u>	<u>0</u>
N	<u>866</u>	<u>0</u>
O	<u>681</u>	<u>73</u>
P	<u>601</u>	<u>20</u>
R	<u>771</u>	<u>299</u>
S	<u>765</u>	<u>36</u>
T	<u>604</u>	<u>41</u>
Total	<u>14,859</u>	<u>810</u>
		Grand Total <u>15,669</u>

RADIO DIVISION

SUMMARY OF ACTIVITIES AND RESPONSIBILITIES

The Radio Division, under the Department of Electricity, is responsible to:

Assure that all radio equipment is installed, maintained and operated in compliance with existing FCC rules and regulations.

Install, repair, maintain and inspect radio communications equipment owned and operated by the City and County, or any Department, or agency thereof.

Make recommendations for proposed radio systems and installations at the request of the Board of Supervisors, or any City or County Department.

Function as technical adviser to all Departments concerning radio facilities, existing or proposed.

Provide adequate representation before the Federal Communications Commission in matters affecting the use of radio. Responsible for obtaining proper construction permits and licenses issued by the FCC.

Prepare such Rules and Regulations affecting Operational procedures and conduct, as are necessary, to bring about conformity with Federal Communications Commission requirements.

Investigate proposed expenditures for radio communication facilities.

Assist and advise the Purchaser of Supplies in standardizing materials, supplies and equipment used for radio communications.

Make necessary recommendations on all plans and specifications for construction of new installations for radio communications by any Department or agency of the City and County.

The personnel assigned to Radio Division were as follows:

- 1 - Radio Engineer
- 2 - Senior Radio Technicians
- 10 - Radio Technicians
- 1 - Radio Technician (Work Order)

14 - Total

RADIO ENGINEERING SECTION

The function of the Radio Engineering Section is project planning, project scheduling, budget development, application of communication science, planning disaster communications, monitoring compliance with Rules and Regulations of the Federal Communications Commission, communication system design, contract preparation, requisitioning and coordination of communication requirements for City Departments.

Work accomplishments during the past fiscal year:

POLICE DEPARTMENT

The Police Instantaneous Communications System (PIC) was fully implemented with the addition of two city-wide channels and operational compatibility was achieved with all divisions of the Department.

Replacement and support items such as batteries, crystals and components were procured to assure an effective maintenance response program for the Department.

Additional CLEMARS licensing was effected to allow for broader flexibility of operation in the mutual aid law enforcement area.

Additional portable hand-held radios were procured bringing the total to approximately 600 units now operational.

Some problems were encountered with the digital communications portion of the command and control system, which involved interfacing. Alterations and modifications were effected and net operation has now resumed.

Compatibility frequency surveys were conducted on various frequencies with adjacent public safety service agencies.

FIRE DEPARTMENT

Intersystem mutual aid fire system (WHITE) was procured and installed with control facilities engineered for Central Fire Alarm Station.

We assisted in the continued support and planning of the Command and Control Fire Communications system.

Frequency studies of area were conducted and FCC applications were filed for three (3) separate UHF frequency pairs to support the new Fire Information Radio System (FIRS).

Filed FCC applications for authorization to add forty-five (45) control mobile relay stations (CMR), one at each fire house throughout the city. This included plotting terrain profiles and determining geographical co-ordinate locations of each facility.

SHERIFF DEPARTMENT

Continued project installation of closed circuit security television at San Bruno County Jail facility.

Studied and reviewed design possibilities of a courtroom bailiff's portable communications and security system.

HEALTH DEPARTMENT

We supported the Department of Public Health by providing communications representation and input to various Emergency Medical Services related meetings in Northern California area. This included San Francisco Emergency Medical Care Committee, Communications Sub-committee, Communications Advisory Committee of the Association of Bay Area Governments, Emergency Communications Committee of the San Francisco Hospital Conference, Associated Public Safety Communications Officers Advisory Committee and the Federal Communications Commission.

Major communications engineering effort was expended in managing and monitoring the development and implementation of the San Francisco Telemetry SERTS Project. Assistance to contract modification was also provided. This contract included six base radio repeaters (UHF) med-channels, two UHF co-ordinate dispatch channels, nine mobile UHF vehicular repeaters, fourteen portable life support radio units, a central control console, two hospital terminals, a switching matrix for connecting private hospitals to private ambulance emergency medical technicians, and a microwave system to tie central control console, at 50 Ivy Street, with base facilities at Central Radio Station.

We drafted and submitted FCC docket comments on the Emergency Medical Services proposed rules changes.

We developed a fully operational radio paging system for the San Francisco General Hospital area. Contract maintenance was utilized, however, communications effort was expended in monitoring and assistance on this project to assure the system remained operational.

Bay Area communications planning was conducted with more than eight counties, adjacent to San Francisco, in development of a co-ordinated approach to the operational assignment of the eight Emergency Medical Telemetry channels, which will be mutually shared as prescribed by Federal Communication Commission Regulations.

Prepared specifications and planned installation of emergency generator facility to support the EMS command and control complex at Central Hospital.

We assisted the San Francisco Hospital Conference in effecting a consolidated radio maintenance contract for the Hospital Emergency Disaster Radio System.

MISCELLANEOUS

Developed an agreement with Pacific Telephone and Telegraph for additional antenna space at Bernal Heights.

Worked with Emergency Services in developing the Communication and Warning Annex to the San Francisco Disaster Plan.

Installed radio facility and provided operating instructions on UHF Local Government net for School Department.

Performed system inspection and acceptance tests for radio expansion project at San Francisco International Airport.

Conducted numerous frequency compatibility tests with various Public Safety agencies throughout Northern California.

PERCENTAGE OF LABOR ALLOCATED

1975 - 1976

<u>DEPARTMENT</u>	<u>% 7368</u>	<u>% 7367</u>	<u>HOURS OVERTIME</u>
Police	30.16	50.13	39
Fire	42.88	28.03	11
Dept. of Public Works	.08	.04	1
Electricity	.09	10.50	1
Health	26.79	.56	3
Supervisors	-	.05	-
Municipal Railway	-	9.54	2
Coroner	-	.04	-
Water Dept.	-	1.05	3
Harbor Police	-	.01	-
Disaster Corp.	-	.03	-
Mayor	-	.01	-
Sheriff	-	.01	-

Hours Overtime 60

Days (Temporary Employee) 524

Days (Vacation Relief) 0

RADIO DIVISION

RADIO SHOP ACTIVITIES

I Mobile Communications Unit Serviced in the Radio Shop

- 2598 - Repaired
- 93 - Vehicle Installations
- 66 - Old Vehicle Equipment Removal
- 698 - Mobile Radio Bench Repairs
- 1046 - Portable Equipment Repairs

II Federal Communications Commission Calibrations

(Includes vehicles, portable units, and base stations)

- 1405 - Units checked and calibrated

III Special Projects

- 96 - Various, consisting mainly of modifications to new or existing equipment and acceptance checks of new equipment for the Police, Fire, Water, Health, and Disaster Departments.

IV Preventive Maintenance Services

- 117 - Various Locations

V Department Services (Other than preventive maintenance at the following locations)

POLICE DEPARTMENT

- 139 - Hall of Justice
- 34 - District Base Stations (Police Stations)
- 23 - Central Radio Station
- 5 - Various Pawn Shops
- 3 - Satellite Receivers

FIRE DEPARTMENT

- 30 - Central Fire Alarm Station
- 26 - Central Radio Station
- 83 - Secondary Base Stations (Fire Houses, other Battalion or Division Houses)
- 75 - District Base Stations (Battalion or Division Headquarters)
- 169 - Heavy Apparatus Field Repairs
- 51 - Electronic Door Opener Repairs
- 5 - Field Repairs to (2) Fire Boats

RADIO DIVISION

Municipal Railway

- 1237 - Repairs to Motor Coaches and Trolley Coaches
- 10 - Base Station Repairs
- 10 - Car Barn P.A. System Repairs

Water Department

- 9 - Repairs at Newcomb Street Yard
- 3 - Repairs at Mason Street Control and Lake Merced
- 2 - Repairs at Central Radio Station

Health Department

- 10 - 101 Grove Street - 20 Chan. Recorder
- 34 - Repairs to Ambulances
- 4 - 101 Grove Control Station
- 1 - San Francisco General Hospital Paging System

Department of Electricity

- 1 - Central Fire Alarm Station
- 3 - Central Radio Station

Department of Public Works

- 3 - Repairs - Central Radio Station
- 5 - Repairs - Army Street Consoles

City Hall

- 8 - Supervisors P.A. System - Repairs or Adjustments

RADIO DIVISION

MOBILE TWO-WAY RADIO UNITS

SERVICED BY RADIO SHOP

<u>Department</u>	<u>No. of Radio Equipped Vehicles Or Portables</u>	<u>Total Radios Maintained</u>
<u>Police</u>		
Cars and Trucks	375	
Solo Motorcycles	61	
Servicar Motorcycles (including scooters)	148	
Portables (Low Band, High Band and UHF)	599	
Command Car	1(8 radios)	1191
<u>Fire</u>		
Cars and Apparatus	200	
Fire Boats	2 (4 radios)	
Command Car	1 (6 radios)	
Portables (UHF)	68	
Portables (Citizen Band)	3	
Portables (Paging Rcvr.)	5	
Portables (VHF)	13	299
<u>Water Department</u>		
Cars and Trucks	131	
(includes 1 Game Warden's Car)		
Portables (Low Band)	2	
Portables (Paging Rcvr.)	7	140
<u>Department of Public Works</u>		
Cars and Trucks	64	
Portables (Citizen Band)	12	
Portables (Lo Band)	2	78
<u>Municipal Railway</u>		
Cars and Trucks	63	
Trolleys	65	
Motor Coaches	511	
Portables	37	676

RADIO DIVISION

<u>Department</u>	<u>No. of Radio Equipped Vehicles or Portables</u>	<u>Total Radios Maintained</u>
<u>Department of Electricity</u>		
Cars and Trucks	34	
Portables (Citizens Band)	2	36
<u>Health Department</u>		
Ambulance	15	
Station Wagons	3	
Car	3	
Personnel-Carrier (MAP)	2	
Portables	22	
Portable (Paging Rec.)	9	
Ambulatory & Transporta- tion Station Wagons	4	54
<u>*Special Police</u>		
Cars	20	
Portables	11	31
<u>Emergency Services</u>		
Cars	3 (4 radios)	
Communication Van	1 (13 radios)	
Portables (Citizen Band)	3	
Portable - VHF	1	21
<u>Coroner</u>		
Cars and Ambulances	4	4
<u>Sheriff</u>		
Cars	27	
Bus	4	
Portables	11	42
<u>Park and Recreation</u>		
Cars	13	
Trucks	14	
Portables (Citizen Band)	3	
Portables (High Band)	1	31

*Federal Communications Commission calibration Only

RADIO DIVISION

<u>Department</u>	<u>No. of Radio Equipped Vehicles or Portables</u>	<u>Total Radios Maintained</u>
<u>Housing Police</u>		
Cars	5	
Portables	3	8
<u>City College & School District</u>		
Portables	14	
Cars	1	15
<u>Police Chaplains</u>		
Cars	3	3
<u>Police Commission</u>		
Cars	5	5
<u>Fire Commission</u>		
Cars	2	2
<u>Board of Education (SFSD)</u>		
Trucks	6	6
<u>District Attorney</u>		
Car	6	6
City Attorney	1	1
<u>*Federal Bureau of Investigation</u>		
Cars	3	3
TOTAL - Mobile and Portable Radios		2652

*Federal Communications Commission calibration Only

RADIO DIVISION

Municipal Railway

At Central Radio Station	2 low band units
At Forest Hill Blockhouse	4 low band units

Health Department

At 101 Grove Street	1 high band unit
At San Francisco General Hospital	2 high band units
At Central Radio Station	2 high band units
At Laguna Honda Hospital	2 high band units
At 5033-3rd Street	1 UHF unit

Board of Education (SFSD)

At Central Radio Station	1 UHF unit
At Toland Street Warehouse	1 UHF unit

Sheriff

At Hall of Justice County Prison	1 high band unit
San Bruno County Prison	1 high band unit
At City Hall	1 high band unit

Department of Public Works

At Central Radio Station	2 low band units
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Department of Electricity

At Central Radio Station	2 high band units
At Central Fire Alarm	1 high band unit
At Bernal Heights	1 high band unit
At 901 Rankin	1 high band unit

Park and Recreation

At McLaren Lodge	1 high band unit
At Maintenance Yard - Golden Gate Park	2 high band units

TOTAL

103

RADIO DIVISION

Base Stations Maintained

Police Department

At Central Radio Station	6 low band units 3 high band units 5 UHF units 1 microwave terminal
At Bernal Heights Station	2 low band units
At Hall of Justice	2 high band units 1 UHF unit 1 microwave terminal
At Police Stations, Pistol Range and Stables	10 low band units 9 UHF units
At Bank of America	1 UHF unit

Fire Department

At Central Radio Station	2 low band units 3 high band units 1 microwave terminal
At Central Fire Alarm Station	1 high band unit 1 microwave terminal
At Fire Houses, and Airport	16 low band units

Emergency Service

At Emergency Operating Center	2 low band units
-------------------------------	------------------

Water Department

At Central Radio Station	2 low band units 1 UHF unit
At Bernal Heights Station	2 low band units
At Lake Merced	1 low band unit

*Housing Authority

At Central Radio Station	1 UHF unit
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*Federal Communications Commission Calibration only.

DEPARTMENT OF ELECTRICITY

SF
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1976-77
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RADIO COMMUNICATIONS
(VOICE, DIGITAL, TELEMETRY)

DOCUMENTS

PUBLIC LIBRARY

TRAFFIC SIGNALS

ANNUAL REPORT ENDING JUNE 30, 1977

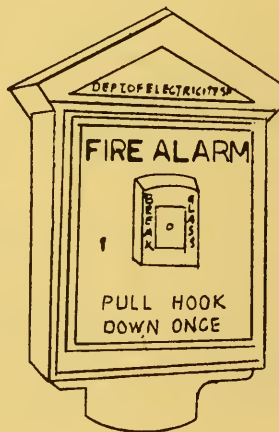
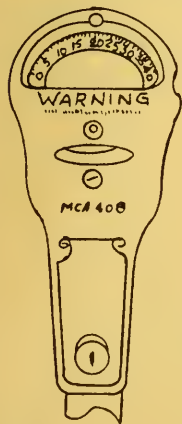
FIRE ALARM

PULL HOOK
DOWN ONCE

PARKING METERS

POLICE
TELEPHONE

DEPARTMENT
OF
ELECTRICITY



September 15, 1977



Mr. Roger Boas
Chief Administrative Officer
289 City Hall
San Francisco, California

Dear Mr. Boas:

In accordance with the provisions of Section 3.501 of the City and County of San Francisco, I am pleased to submit the annual report of the Department of Electricity for the fiscal year 1976-77.

During the year the Department was in transition from operation through five divisions (Administrative, Electrical, Mechanical, Radio and Fire Alarm) to operation in four divisions (Administrative, Mechanical, Radio and Electrical). Fire Alarm operation is now included under our Electrical Division. The general organizational chart for the Department reflects this change which was made to increase efficiency in administrative and operational control. Through attrition as vacancies occur in the Class 8234 Fire Alarm Dispatcher, these positions will become Telecommunications Technicians, Class 7366.

The cost of operating the Department of Electricity during the fiscal year 1976-77 was 3.59% greater than for fiscal year 1975-76 and was \$94,005 more than last year.

Expanding, improving and upgrading the communications systems for all City Departments continued throughout the year.

I wish to commend the employees of our Department of Electricity for their continued dedication in providing service to the various departments and to the citizens of San Francisco.

I sincerely appreciate the help and understanding extended by you and your staff during the past year. Please be assured of my continued cooperation, support and service.

Respectfully submitted,

A handwritten signature in cursive script, reading "Burton H. Dougherty".

BURTON H. DOUGHERTY
General Manager
Department of Electricity

ANNUAL REPORT
DEPARTMENT OF ELECTRICITY
CITY AND COUNTY OF SAN FRANCISCO

FISCAL YEAR 1976-77

HON. GEORGE R. MOSCONE
MAYOR
ROGER BOAS
CHIEF ADMINISTRATIVE OFFICER
BURTON H. DOUGHERTY
GENERAL MANAGER

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ACCOUNTING (ADMINISTRATION)

The Senior Accountant, under the direction of the General Manager is responsible for the Accounting (Administration) Division. The Division is composed of three Department of Electricity personnel and one Storekeeper from the Purchasing Department. In addition to Accounting functions, various administrative tasks are assigned which require a portion of the services of *two additional personnel. The personnel are as follows:

- 1 - 1652 Senior Accountant
- 1 - 1650 Accountant
- 1 - 1630 Account Clerk
- 1 - 1934 Storekeeper
- *1 - 1446 Senior Clerk Stenographer
- *1 - 1424 Clerk Typist

For functional use, the Division maintains an orderly system of recording costs and revenues which are compiled and reported to management in timely periodic reports.

For cost control of labor, material, services, and equipment, the Division maintains approximately seventy cost accounts, as well as accounting for individual budgetary line items. Also, the Division, during the Fiscal Year 1976-77, compiled costs for 269 individual work orders, special jobs, and projects, an increase of 11% as compared to Fiscal Year 1975-76.

During 1976-77, 200 billings, in the amount of \$102,206 were made to cover Special Jobs, Installation Funds, and damages to City property. Comparison with previous year is as follows:

	<u>1976-77</u>	<u>1975-76</u>	<u>% Increase (Decrease)</u>
No. Billings	200	167	19.76%
Amount of Billings	\$102,206	\$83,227	22.80%
Damages Billings	\$ 64,805	\$58,965	9.90%
Other Billings	\$ 37,401	\$24,262	54.15%

ESTIMATED AND COMPARATIVE REVENUE

	Estimated Revenue <u>1976-77</u>	Collections - Cash Received <u>1976-77</u>	<u>1975-76</u>	And % Increase (Decrease)
Damage Claims - Traffic Signals. Note A	\$25,000	\$31,339	\$33,926	(7.63%)
Damage Claims - Parking Meters. Note B	5,000	5,130	3,260	57.36%
Damage Claims - Police & Fire Alarm Facilities. Note B	3,000	778	582	33.68%
Housemoving Electrical Inspection. Note C	35	52	19	173.68%
 TOTAL	 <u>\$33,035</u>	 <u>\$37,299</u>	 <u>\$37,787</u>	 (1.29%)

COMMENT

Collections include all Department of Electricity Revenue collected by this Department or another.

NOTES

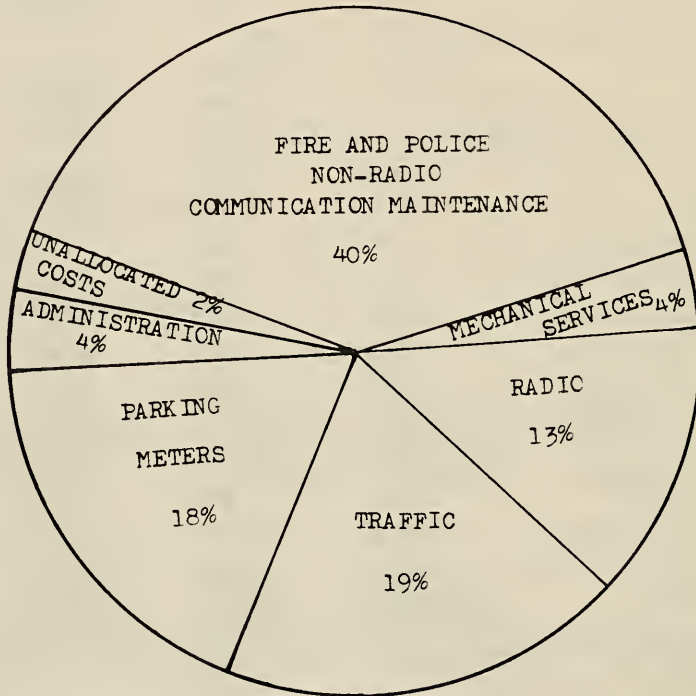
- (A) Recovery of damages is deposited to Road Fund.
- (B) Recovery of damages is deposited to General Fund.
- (C) Collections offset actual cost for each inspection of overhead line wires.

COMPARATIVE EXPENSE STATEMENT AS OF JUNE 30, 1977

<u>Budget Description:</u>	<u>Expense</u> <u>1975-76</u>	<u>Expense</u> <u>1976-77</u>	<u>Allowance</u> <u>1976-77</u>	<u>Balance</u> <u>1976-77</u>
Permanent Salaries	\$ 579294	634027	704544	70517
Overtime Pay	13667	8631	10560	1929
Holiday Pay	7608	7211	7608	397
Temporary Salaries	9300	6874	9300	2426
Permanent Salaries-Craft	1422397	1268905	1371720	102815
Holiday & Overtime-Craft	-	41342	62639	21297
Temporary Salaries-Craft	-	39275	44758	5483
Contractual Service	3662	11479	14306	2827
Automotive Repair	14823	17801	18500	699
Office Equip.Repair	87	203	250	47
Reproduction Service	451	703	850	147
Light,Heat & Power	14381	18592	19720	1128
Telephone Service	8015	8012	8590	578
Scavenger Service	1211	1581	1600	19
Material & Supplies	127176	126853	127563	710
Equipment	21565	10558	11380	822
Fixed Charges	349	420	436	16
Mandatory Fringe	389296	504470	531082	26612
Serv.of Other Depts.	<u>8003</u>	<u>8353</u>	<u>8503</u>	<u>150</u>
Total Budget	<u>\$ 2621285</u>	<u>2715290</u>	<u>2953909</u>	<u>238619</u>
Increased Budget Expense		94005		
Increased % over 1975-76		3.59%		
<u>Other Description:</u>				
Interdepartmental W.O.\$	113591	114556	547734	433178
Installation Jobs	2193	1501	2430	929
Private Contractor Jobs	9260	5368	32392	27024
Total Other	<u>\$ 125044</u>	<u>121425</u>	<u>582556</u>	<u>461131</u>
Decreased Other Expense		3619		
Decreased % Over 1975-76		2.89%		
Total Budget & Other	<u>\$2746329</u>	<u>2836715</u>	<u>3536465</u>	<u>699750</u>
Total Increased Expense		90386		
Total Increased % Over 1975-76		3.29%		

DEPARTMENT OF ELECTRICITY COST BREAKDOWN *

1976-1977



* Budget Cost

COMMENTS

Maintenance includes all damages without offset for collections.

ELECTRICAL DIVISION

The Electrical Division, under the general administrative direction of the General Manager, is responsible for two major departmental functions: the maintenance and operation of Fire Alarm Non-Radio Communications and the Traffic Signal System as follows:

Fire and Police Non-Radio Communications

The primary responsibility under this function is the maintenance and operation of the Municipal Fire Alarm System. This includes the following:

A computer-assisted Fire Alarm Dispatch System consisting of two on-line computers, a wall-type electronic status board, 3 audio-dispatch consoles, a system control console, uninterruptable power supply; electronic consoles in all fire stations, Ashbury Tank, Jones Tank, Pump Station I, Pump Station II, Bureau of Equipment, Fire Department Headquarters, Fire Chiefs' Quarters, and the Department of Electricity; a telephone switchboard, a box alarm switchboard, 2 - 75 Kilo-watt diesel generators, associated switchgear, main batteries, and other related electrical and communications equipment in the Central Fire Alarm Station.

Police Communications - Maintenance and Repair:

Police Teletype System with two transmitters and control console in the Hall of Justice, and receivers located in Police Stations and Bureaus of the Police Department.

Police Ring-In Telephone System with locals to various bureaus within the Hall of Justice, Police Stations and call boxes on the City streets.

Outside Plant - Fire and Police

This Division installs, maintains and replaces overhead lines and underground cables throughout the City's 49 square mile area, which includes:

Circuits from the Central Fire Alarm Station to 2027 fire boxes on the City streets and to 44 Fire Stations and 9 associated agencies of the Fire Department; also, circuits from the Hall of Justice to 469 call boxes and to all Police Stations in the City.

This underground cable system also provides essential communication circuits interconnecting the Hall of Justice, Central Fire Alarm Station, Central Radio Station and the Department of Electricity Plant Facility at 901 Rankin Street.

ELECTRICAL DIVISION

TRAFFIC SIGNAL MAINTENANCE

The Electrical Division is responsible for the maintenance and operation of 908 intersections of traffic signals on a 24-hour basis; this includes:

Thousands of vehicle signals, pedestrian signals, detection devices, control apparatus, and miles of underground control cable and associated master controllers for synchronizing entire networks of signal systems. During the fiscal year this system generated 2406 complaints of traffic signal malfunction. These were responded to immediately thru radio dispatch, by personnel on duty or at home on a standby basis.

Our primary responsibility is to provide preventative maintenance to eliminate as much as possible any equipment failure. To accomplish this, we have initiated a group lamp replacement program whereby all signal lamps at each intersection is replaced at annual intervals. Also, as time permits, all control apparatus is brought into the traffic shop for complete overhaul.

One of our major problems is the damage done to our traffic signals by vehicles. During the fiscal year, on 115 occasions, traffic signal standards or controllers were knocked down by vehicles. The repair, or replacement of this equipment, causes a heavy drain on our budget as funds recovered from the responsible parties are returned to the General Fund.

During the fiscal year the following new intersections were added to the traffic signal network:

Fulton and Hyde	Sunset and Irving
Alemany and Ottawa	Columbus and Vallejo
Mission and Brazil	Sutter and Webster
Mission and Italy	Geary and Fillmore
Mission and Trumbull	Lake Merced and Brotherhood
Mission and Spear	

Work Orders amounting to \$23,613 were performed for other City Departments involving installations and relocations of traffic signals.

Special Jobs amounting to \$4,747 were performed for private contractors, involving relocation of traffic signals to facilitate building construction.

ELECTRICAL DIVISION

PERSONNEL ASSIGNED TO ELECTRICAL DIVISION:

- 1 - 7131 Electrical Maintenance and Construction Supt.
- 1 - 5352 Electrical Engineering Assistant II
- 1 - 7132 Telecommunications Supervisor
- 3 - 7366 Telecommunications Technician
- 1 - 8236 Chief Fire Alarm Dispatcher
- 7 - 8234 Fire Dispatchers
- 4 - 1708 Senior Telephone Operators
- 1 - 7273 Communication Line Supervisor II
- 1 - 7257 Communication Line Supervisor I
- 1 - 7275 Cable Splicer Supervisor I
- 3 - 7308 Cable Splicers
- 13 - 7338 Electrical Line Workers
- 1 - 7276 Electrician Supervisor II
- 2 - 7238 Electrician Supervisor I
- 13 - 7345 Electricians
- 4 - 7514 General Laborer

Electrical Division Activities:

Central Fire Alarm Station - 24-hour Operation

operated telephone switchboard which provides service to all units and bureaus of the Fire Department and the Department of Electricity.

monitored:

A box alarm switchboard connected to all street fire alarm boxes. Alarms received were transmitted thru the computer which provides the Fire Department assignment officer with a recommended assignment for dispatch.

A computer-assisted fire alarm dispatch system with teletype and voice announce consoles in 44 Fire Stations and associated agencies of the Fire Department to insure efficient operations.

Malfunctions noted were corrected or referred to supervisory personnel for follow-up and repair.

Hot lines and registers from private Central Station Fire Alarm Companies. Alarms received were transmitted to the Fire Dept. assignment officer for dispatch to designated Fire Stations.

Air raid attack warning system, tested sirens on a weekly basis to insure satisfactory operation.

ELECTRICAL DIVISION

Conducted scheduled tests on fire alarm box circuits, dispatch circuits and emergency power equipment.

Coordinated on a continuous basis, testing and repair activity with field personnel, including Telecommunications Technicians, Linemen, Cable Splicers and Electricians.

Personnel at the Central Fire Alarm Station in addition to the usual complaints on the fire alarm system, after normal working hours and on Saturday, Sunday and Holidays, also receive complaints on the traffic signal system, police communication system, air raid siren system, and the City and County radio system.

They dispatch on-duty personnel, or call out standby personnel necessary to make repairs and restore service as required.

The following summarizes complaints received by Department of Electricity personnel at the Central Fire Alarm Station during the fiscal year:

Fire Alarm circuits	433
Fire Alarm boxes	81
Police call box locals	30
Police call boxes	62
* SA/TPE Fire Station Equipment	422
** SA/TPE CFAS	100
Police Teletype	6
Signal Registers	47
Radio Equipment	26
Civil Defense Sirens	1
Traffic Signals	2406
Miscellaneous Equipment	178
	<hr/>
	3792

* Teletype, Voice Announce Consoles in Fire Stations.

** Command & Control Equipment - Central Fire Alarm Station.

ELECTRICAL DIVISION

FIELD OPERATIONS

Fire Station Equipment Repaired or Replaced:

- 50 - Registers
- 33 - Fire Bells
- 40 - Automatic Light Switches
- 5 - Relays

Fire Alarm Boxes - Installations, Relocations and Removals:

- 8 - New Installations
- 13 - Old Style Boxes replaced with modern 3-fold movement
- 3 - Removed
- 4 - Relocated
- 1 - Converted from overhead to underground

Repaired or replaced Fire Alarm boxes damaged by vehicles
at 31 locations

Repaired in the field 56 Fire Alarm boxes
Pulled for test 6090 Fire Alarm boxes

Auxiliary Fire Alarm Systems:

- a. Tested auxiliary Fire Alarm Systems in 130 Public Schools on a monthly basis.
- b. Responded to 98 trouble complaints on school auxiliary system.
- c. Cooperated with the Bureau of Architecture, San Francisco Unified School District, SFFD Division of Fire Prevention in the testing and acceptance of new auxiliary Fire Alarm installations at the following schools:

Filipino Education Center
Monroe Elementary School
Sutro Elementary School
Frank McCoppin Elementary School

Assisted following agencies with the testing of their auxiliary Fire Alarm Systems:

San Francisco Port Authority
University of California Hospital
Municipal Railway Kirkland Yard
Hunters Point Shipyard

The Electrical Division also approves and supervises the testing and connecting of auxiliary fire alarm systems to the municipal system by Auxiliary Fire Alarm Companies legally authorized to do business in San Francisco.

ELECTRICAL DIVISION

Police Communications - Maintained and Repaired as Required:

Police Telephone switchboard with 89 telephones in the Hall of Justice, Bureaus and Police Stations and 469 Call Boxes on the City streets.

Chief of Police private telephone system.

City and County Jail telephone system which includes 108 visitors telephones.

Central Radio Station:

Maintained and conducted regular tests on the two emergency generators.

Maintained, repaired and replaced radio station lighting and electrical equipment as necessary.

Checked Radio Tower aircraft warning lights daily and reported to the Fire Dispatcher for entry in the log as required by F.C.C. Regulations.

Replaced aircraft warning lamps and serviced photo cell equipment as required.

Installed, relocated, repaired or replaced radio antennas systems as requested by Radio Engineer.

Conducted security checks of the Radio Station area on a nightly basis.

Air Raid Warning System:

Tested, maintained and repaired the City's Air Raid Siren System consisting of control equipment in the Central Fire Alarm Station with leased lines to 53 air raid sirens throughout the City.

Overhead Lines and Underground Cables:

Transferred overhead Fire Alarm and Police Communications circuits to new poles at 81 locations in connection with the work program of the P.G. & E. and P.T. & T. Companies upon whose poles we occupy space.

Located and cleared trouble at 582 locations.

Repaired and spliced underground cable at 285 locations.

Replaced 21280' of underground cable of various sizes as required.

ELECTRICAL DIVISION

Installed Fire Alarm cable, fire alarm and police call boxes in the Hunters Point and India Basin project as required to keep up with the progress of building and street construction.

Checked plans submitted by other City Departments, Utility Companies, Developers, Street Improvement Contractors and marked location of our underground conduits on the surface of the street in connection with track installation and removal, utility installations, water, sewer and street improvement projects. Repaired damages to our underground facilities and billed responsible parties involved.

TRAFFIC SIGNAL MAINTENANCE - ACTIVITIES

FIELD OPERATIONS

Checked Operations	- - - - -	806
Controllers Changed	- - - - -	424
Relays Changed	- - - - -	264
Coordination Units Changed	- - - - -	30
Intersections Mass Relamped	- - - - -	721
Master & Cascade AM Offsets Checked	- - - - -	1018
Master & Cascade PM Offsets Checked	- - - - -	769
Dial Units Changed	- - - - -	140
Damaged Conduit & Wiring Repaired	- - - - -	68
Detector Pads Changed, 6 ft.	- - - - -	6
Steel Pole, 10 ft. Changed	- - - - -	42
Marbelite Pole, 10 ft. Changed	- - - - -	15
Signal Heads Changed	- - - - -	153
Signal Lens & Reflectors Replaced	- - - - -	85
Signal Heads Realigned	- - - - -	421
Visors Replaced	- - - - -	79
Visors Repaired	- - - - -	115
Flashers Changed	- - - - -	192
Controller Cabinet Replaced	- - - - -	39
Controller Cabinet Repaired	- - - - -	33
Pedestrian Signals Repaired	- - - - -	225
Checked Timing and Placed Timing Cards	- - - - -	212
Coordination Units Repaired	- - - - -	18

LAMP, TUBE AND TRANSFORMER REPLACEMENTS:

WAIT Tube	- - - - -	23
WALK Tube	- - - - -	35
DON'T WALK Tube	- - - - -	42
Transformers	- - - - -	56
TURN Tube	- - - - -	14
67 Watt Lamps	- - - - -	17005
Grid Tubes	- - - - -	37

SHOP OPERATIONS:

Controllers Serviced	- - - - -	507
Dial Units Serviced	- - - - -	752
Relays Serviced	- - - - -	740
Flashers Serviced	- - - - -	218
Signal Heads Serviced	- - - - -	550
Coordination Units Serviced	- - - - -	11
Cabinets Serviced	- - - - -	55
Magnetometers repaired	- - - - -	27

ELECTRICAL DIVISION

INSTALLATIONS AND MODIFICATIONS

At Mission and Excelsior, also at Mission and Valencia, removed signals from old trolley poles, installed temporary poles and signals. Later reinstalled signals on new trolley poles.

Converted controllers to flashing "DON'T WALK" operation at following intersections:

19th & Winston	So. Van Ness & Mission
24th & Bryant	Bay & Laguna
29th & Mission	Clayton & Twin Peaks
Army & Mission	Battery & Washington
Army & Valencia	Battery & Clay
19th Ave. & So. Drive	

Converted controller to 3-phase operation and rewired intersection at 25th Ave. and Lincoln Way.

Built new fixed time controllers and installed at following intersections:

Main & Mission	Portola & Vicente
Duboce & Castro	Portola & 14th Ave.

Removed obsolete volume density dispatcher and installed semi-actuated controller at:

Silver Avenue & Bayshore Blvd.

Modified existing controllers at:

Cortland & Bocana
Appleton & Mission

Rewired and modified controller for 30-circuit operations at:

1st Street & Market
Montgomery & Market

Two new preempt controllers were built and installed to preempt signals at Post and Polk and Post and Larkin from Fire Station #3.

Modified controller and wiring for pedestrian operation at Woodside and Hernandez.

At Geary and Masonic: modified controller, installed 8 new pedestrian heads, 4 left turn signals and 1 - 3-M directional signal.

MECHANICAL DIVISION

MANUFACTURE, MAINTENANCE AND REPAIR

Under the general administrative direction of the General Manager, the Machine Shop and Parking Meter Superintendent directs and supervises all maintenance and repair to all mechanical equipment under the jurisdiction of the Department of Electricity. New parts are manufactured as necessary. The equipment includes the following:

- 1) 1983 Fire Alarm Boxes
- 2) 469 Police Patrol Boxes
- 3) 79 Office Set Phones
- 4) 908 Traffic Signals
- 5) All mechanical equipment at the Central Fire Alarm Station, Central Radio Station, Hall of Justice Communication's Room, and the Plant at 901 Rankin Street, including 5 emergency gas driven generators at the above, Youth Guidance Center and Bernal Heights.
- 6) 15740 Parking Meters
- 7) 54 Emergency Warning Sirens
- 8) 56 pieces of gas driven equipment - 49 mobile and 7 stationary. The major repairs of the above equipment were done at the Purchasing Shops. The servicing of the equipment was done by one part-time Automotive Serviceman at 901 Rankin Street.
- 9) The maintenance of three Departmental Buildings: Plant, 901 Rankin Street, Central Fire Alarm Station, 1003 Turk Street, and Central Radio Station, Twin Peaks was directed by the Machine Shop and Parking Meter Superintendent, though the majority of the work was accomplished by the Department of Public Works, or through contractual services.

MECHANICAL DIVISION

Manufactured:

- 1) Three-fold non-interfering Fire Alarm Boxes were manufactured to replace obsolete Fire Alarm Boxes in the new Underground Districts. New and replacement parts for Fire Alarm Boxes, Police Patrol Boxes, Registers, Instruments, and Parking Meters were manufactured in the Machine Shop as needed.
- 2) Approximately 90 new parking meter installations were made. Area one and area two have rates of nickel, dime and quarter. Area three and four still have penny, nickel and dime rates. Revenue from parking meters has increased by \$129,863 for a total of \$2,449,623.39. As of June 30, 1977, the total installation of parking meters was 15,740.
- 3) Special mechanical fixtures and apparatus were designed and manufactured to produce functional improvement. Miscellaneous tool and die, experimental projects and equipment tests were undertaken and completed.

Maintenance and Repair

Necessary and vital repairs were made to all mechanical equipment. The Mechanical Division works in close harmony with the Plant, Electrical, Traffic, and Radio Divisions of the Department of Electricity and with other Departments of the City to better serve the public.

Painting

Fire Alarm Boxes, Police Patrol Boxes, Traffic Signals, Controllers, Parking Meters and other miscellaneous equipment were prepared and painted in the shop and field. Due to a shortage of personnel, we are on a four to five year painting cycle, rather than a two year cycle recommended for some of the above equipment.

Other Duties

Data was compiled for the annual budget, necessary specifications for machinery and automotive equipment were written, and requisitions for equipment and supplies were made. Reports and correspondence related to Mechanical Division were processed. Records on all Mechanical equipment and Parking Meter field and shop services were kept.

MECHANICAL DIVISION

The personnel assigned to Mechanical Division as follows:

- 1 - Machine Shop and Parking Meter Superintendent
- 1 - Maintenance Machinist Supervisor I
- 10 - Maintenance Machinists
- 1 - Parking Meter Repairer Supervisor I
- 19 - Parking Meter Repairers
- 3 - Painters
- 1 - General Laborer Supervisor I
- 1 - Laborer
- 1 - Clerk Typist
- 1 - Custodian
- 1 - Automotive Service Worker

40 TOTAL

PERCENT OF PERSONNEL ALLOCATED - VARIOUS DIVISIONS

No.	Class	Title	Fire	Police	Traffic	Radio	Parking Meters	Air Raid , & O.D.	Misc.
1	7123	Machine Shop and Parking Meter Supt.	23	10	15	5	39	1	7
1	7258	Maintenance Machinist Supervisor I	30	10	10	10	30	1	9
10	7332	Maint. Machinists	30	5	10	9	40	1	5
1	7215	Gen. Laborer Supervisor I					100		
1	7514	Gen. Laborer					100		
1	7243	Parking Meter Repairer Supervisor I					100		
19	7444	Parking Meter Repairer					100		
3	7346	Painter	1-70	1-15	2-100	1-3	1-7		1-5
1	7410	Automotive Service Worker	30	15	25	10	15		5
1	1424	Clerk Typist	5	4		1	88		2

MECHANICAL DIVISION
SUMMARY OF ACTIVITIES

	Total Numbers <u>1976-77</u>
Manufactured Fire Alarm Boxes, parts and related equipment	<u>1127</u>
Repaired Fire Alarm Boxes, parts and related equipment	<u>713</u>
Manufactured Police Call Boxes and related equipment	<u>428</u>
Repaired Police Telephones and related Communications equipment	<u>143</u>
Manufactured Traffic Signal Parts and Special Tools	<u>1017</u>
Repaired Traffic Signals, parts and related equipment	<u>310</u>
Manufactured and repaired miscellaneous radio equipment items	<u>1162</u>
Miscellaneous items manufactured and repaired for Plant and vehicular equipment	<u>756</u>
Manufactured jigs, fixtures, tools, stamping dies and patterns for Machine Shop production and maintenance work	<u>26</u>
Manufactured miscellaneous parking meter parts	<u>10,503</u>
Repaired parking meter cases, mechanisms, timers, and miscellaneous parts	<u>10,388</u>
All Registers and Emergency Generators serviced weekly, plus related equipment at Central Fire Alarm Station, 1003 Turk St.	<u>183</u>

MECHANICAL DIVISION

PAINTING - FIELD AND SHOP

The following items have been prepared, primed and finish coated:

1976-77

FIRE ALARM SYSTEM

Fire Alarm Boxes - Field and Shop 619

Fire Alarm Box Posts, Bases, Inner Shells,
Sockets, Movement Housings, etc. - Field
and Shop 595

POLICE COMMUNICATION

Police Call Boxes - Field and Shop 153

Miscellaneous items - Shop 57

TRAFFIC SIGNALS

Vehicular Signals - Field & Shop 944

Signal Controllers - Field & Shop 138

Walk-Wait Pedestrian Signals - Field & Shop 189

Push Button Pedestrian Signals -
Field and Shop 40

Signal Posts, Poles, etc. - Field and Shop 373

Traffic Signal Visors and Louvers -
Field and Shop 348

RADIO DIVISION

Miscellaneous Radio Equipment - Shop 48

PARKING METERS

Parking Meter Cases - Shop 0

MISCELLANEOUS PAINTING AT PLANT, 901 RANKIN ST.
CENTRAL FIRE ALARM, 1003 TURK STREET, AND CENTRAL
RADIO STATION, TWIN PEAKS

Cabinets, Siren Parts, Ladders (oiled-shellacked), Brackets,
Radio Equipment, Parts, Aluminum Strips, Redwood Moulding,
touch-up, etc.

MECHANICAL DIVISION

SUMMARY OF ACTUAL ANNUAL REPAIRS TO PARKING METERS

	Units
Intentionally Jammed Meters Cleared	195,710
Cases Cleaned	1,317
Damaged Meters Removed	569
Exchange Heads	117
Exchange Mechanisms	5,377
Exchange Mechanisms for Cleaning	8
Exchange Timers	1,559
Hoods Removed	4,382
Lock Open Coin Doors	183
Loose Heads	452
Loose Mechanisms	135
Mechanical Adjustment Mechanisms	12,473
Mechanical Adjustment Cases	2,043
Meters Installed	366
Meters Removed from Service	275
O.K. Requested Inspections	4,506
Replace Coin Glass	1,506
Replace Coin Lock	632
Replace Parts to Cases	4,334
Replace Parts to Mechanisms	969
Replace Signal Glass	1,002
Stuck Coins	8,521
Service Coin Door	33
Service Coin Lock	973
Stuck Indicators	439
Stuck Signals	2,175
Stuck Timers	1,365
Unwound Main Springs	6,153
Winding Hole Plugged	266
Parking Meter Heads Replaced	731
Checked for Traffic Fines Bureau	4,469
Machine Shop Repairs on Cases	1,989
Mechanisms Cleaned and Overhauled	7,573
Temporarily Out of Service	93
Repair Timers	687
Parking Meter Posts Straightened	1,825
" " " Removed	140
" " " Relocated	14
" " " Installed	382
" " " Replaced	431
" " " Reset	585
Parking Meter Complaints received by telephone:	
Tax Collector's Office	2,506
Police Department	3,645
Total	282,910

MECHANICAL DIVISION
INVENTORY OF PARKING METERS

AS OF JUNE 30, 1977

<u>District</u>	<u>Number</u>	<u>Number in Off-Street Parking Lots</u>
A	970	69
B	886	119
C	804	-0-
D	879	40
E	763	-0-
F	1015	82
G	812	-0-
H	785	-0-
I	504	-0-
J	913	-0-
K	1012	-0-
L	596	31
M	742	-0-
N	865	-0-
O	606	73
P	602	20
R	772	299
S	764	36
T	637	41
Total	14,927	810
		Grand Total 15,737

RADIO DIVISION

SUMMARY OF ACTIVITIES AND RESPONSIBILITIES

The Radio Division of the Department of Electricity is responsible to:

Assure that all radio equipment is installed, maintained and operated in compliance with existing FCC rules and regulations.

Install, repair, maintain and inspect radio communications equipment owned and operated by the City and County, or any Department, or agency thereof.

Make recommendations for proposed radio systems and installations at the request of the Board of Supervisors, or any City or County Department.

Function as technical adviser to all Departments concerning radio facilities, existing or proposed.

Provide adequate representation before the Federal Communications Commission in matters affecting the use of radio. Responsible for obtaining proper construction permits and licenses issued by the FCC.

Prepare such Rules and Regulations affecting Operational procedures and conduct, as are necessary, to bring about conformity with Federal Communications Commission requirements.

Investigate proposed expenditures for radio communication facilities.

Assist and advise the Purchaser of Supplies in standardizing materials, supplies and equipment used for radio communications.

Make necessary recommendations on all plans and specifications for construction of new installations for radio communications by any Department or agency of the City and County.

The personnel assigned to Radio Division were as follows:

- 1 - Radio Engineer
- 2 - Senior Radio Technicians
- 10 - Radio Technicians
- 1 - Radio Technician (Work Order)

14 - Total

RADIO ENGINEERING SECTION

The function of the Radio Engineering Section is project planning, project scheduling, budget development, application of communication science, planning disaster communications, monitoring compliance with Rules and Regulations of the Federal Communications Commission, communication system design, contract preparation, requisitioning and coordination of communication requirements for City Departments.

Work accomplishments during the past fiscal year:

POLICE DEPARTMENT

The Police Instantaneous Communications System (PIC) was fully implemented and full operational compatibility was achieved with all divisions of the Department.

Replacement and support items such as batteries, crystals and components were procured to assure an effective maintenance response program for the Department.

CLEMARS licensing was updated to allow for broader flexibility of operation in the mutual aid law enforcement area.

Additional portable hand-held radios were procured bringing the total to approximately 600 units now operational.

Some problems were encountered with the digital communications portion of the command and control system, which involved interfacing. Alterations and modifications were effected and an exchange of 1-channel has been completed with EMS coordinate facility.

Compatibility frequency surveys were conducted on various frequencies with adjacent public safety service agencies.

FIRE DEPARTMENT

Intersystem mutual aid fire system (WHITE) was augmented. Interfacing with Coast Guard Emergency Center was surveyed.

We assisted in the continued support and planning of the Command and Control Fire Communications system.

Frequency studies of area were continued and additional FCC applications were filed for UHF frequency pairs to support the new Fire Information Radio System (FIRS).

Completed FCC applications for authorization of forty-five (45) control mobile relay stations (CMR), one at each fire house throughout the City.

SHERIFF DEPARTMENT

Completed project installation of closed circuit security television at San Bruno County Jail facility.

Continued on the development of a courtroom bailiff's portable communications security and alarm system.

HEALTH DEPARTMENT

We supported the Department of Public Health by providing communications representation and input to various Emergency Medical Services related meetings in Northern California area. This included San Francisco Emergency Medical Care Committee, Communications Sub-Committee, Communications Advisory Committee of the Association of Bay Area Governments, Emergency Communications Committee of the San Francisco Hospital Conference, Associated Public Safety Communications Officers Advisory Committee and the Federal Communications Commission.

Major communications engineering effort was expended in managing and monitoring the development and implementation of the San Francisco Telemetry SERTS Project. Assistance to contract modification was also provided. Exchange of two UHF coordinate dispatch channels was initiated. The switching matrix, for connecting private hospitals to private ambulance emergency medical technicians via the microwave system to tie central control console, at 50 Ivy Street, with base facilities at Central Radio Station was further implemented.

We continued to improve the radio paging system for the San Francisco General Hospital area. Contract maintenance was utilized, however, communications effort was expended in monitoring and assistance on this project to assure the system remained operational.

Bay Area communications planning was supported with eight counties, adjacent to San Francisco, in development of a coordinated approach to the operational assignment of the eight Emergency Medical Telemetry Channels, which will be mutually shared as prescribed by Federal Communications Commission Regulations.

PERCENTAGE OF LABOR ALLOCATED

1976 - 1977

<u>DEPARTMENT</u>	<u>% 7368</u>	<u>% 7367</u>	<u>HOURS OVERTIME</u>
Police	22.73	52.13	57
Fire	58.18	20.13	15
Dept. of Public Works	.08	.03	-
Electricity	.09	19.47	-
Health	18.92	1.14	8½
Supervisors	-	.05	-
Municipal Railway	-	5.69	21½
Coroner	-	.04	-
Water Dept.	-	1.06	-
Harbor Police	-	.01	-
Disaster Corp.	-	.03	-
Mayor	-	.01	-
Sheriff	-	.01	-

Hours Overtime	102
Days (Temporary Employee)	575
Days (Vacation Relief)	0

RADIO DIVISION

RADIO SHOP ACTIVITIES

- I Communications Units Serviced in the Radio Shop
 - 4978 - Mobile/Portable Repairs
 - 173 - Installations and Removals
- II Federal Communications Commission Calibrations

(Includes vehicles, portable units, and base stations)

 - 1564 - Units checked and calibrated
- III Special Projects
 - 250 - Various, consisting mainly of modifications to new or existing equipment and acceptance checks of new equipment for the Police, Fire, Water, Health, and Disaster Departments.
- IV Preventive Maintenance Services
 - 277 - Various Locations
- V Department Services (Other than preventive maintenance at the following locations)

POLICE DEPARTMENT

- 39 - Hall of Justice
- 67 - District Base Stations (Police Stations)
- 24 - Central Radio Station
- 5 - Various Pawn Shops
- 8 - Satellite Receivers

FIRE DEPARTMENT

- 25 - Central Fire Alarm Station
- 24 - Central Radio Station
- 90 - Secondary Base Stations (Fire Houses, other Battalion or Division Houses)
- 43 - District Base Stations (Battalion or Division Headquarters)
- 144 - Heavy Apparatus Field Repairs
- 67 - Electronic Door Opener Repairs

RADIO DIVISION

Municipal Railway

- 1014 - Repairs to Motor Coaches and Trolley Coaches
- 14 - Base Station Repairs
- 21 - Car Barn P.A. System Repairs

Water Department

- 9 - Repairs at Newcomb Street Yard
- 3 - Repairs at Mason Street Control and Lake Merced
- 2 - Repairs at Central Radio Station

Health Department

- 57 - Repairs to Ambulances
- 30 - 101 Grove Control Station
- 20 - San Francisco General Hospital Paging System

Department of Electricity

- 1 - Central Fire Alarm Station
- 3 - Central Radio Station

Department of Public Works

- 2 - Repairs - Central Radio Station
- 2 - Repairs - Army Street Consoles

City Hall

- 5 - Supervisors P.A. System - Repairs or Adjustments

RADIO DIVISION

MOBILE TWO-WAY RADIO UNITS

SERVICED BY RADIO SHOP

<u>Department</u>	<u>No. of Radio Equipped Vehicles Or Portables</u>	<u>Total Radios Maintained</u>
<u>Police</u>		
Cars and Trucks	375	
Solo Motorcycles	61	
Servicar Motorcycles (including scooters)	148	
Portables (Low Band, High Band and UHF)	613	
Command Car	1(8 radios)	1205
<u>Fire</u>		
Cars and Apparatus	200	
Fire Boats	2 (4 radios)	
Command Car	1 (6 radios)	
Portables (UHF)	73	
Portables (Citizen Band)	3	
Portables (Paging Rcvr.)	8	
Portables (VHF)	13	307
<u>Water Department</u>		
Cars and Trucks	131	
(includes 1 Game Warden's Car)		
Portables (Low Band)	3	
Portables (Paging Rcvr.)	8	142
<u>Department of Public Works</u>		
Cars and Trucks	69	
Portables (Citizen Band)	12	
Portables (Lo Band)	2	83
<u>Municipal Railway</u>		
Cars and Trucks	63	
Trolleys	50	
Motor Coaches	511	
Portables	37	661

RADIO DIVISION

<u>Department</u>	<u>No. of Radio Equipped Vehicles or Portables</u>	<u>Total Radios Maintained</u>
<u>Department of Electricity</u>		
Cars and Trucks	34	
Portables (Citizens Band)	2	36
<u>Health Department</u>		
Ambulance	15	
Station Wagons	3	
Car	3	
Personnel-Carrier (MAP)	2	
Portables	22	
Portable (Paging Rec.)	230	
Ambulatory & Transporta- tion Station Wagons	4	309
<u>*Special Police</u>		
Cars	22	
Portables	15	37
<u>Emergency Services</u>		
Cars	3 (4 radios)	
Communication Van	1 (13 radios)	
Portables (Citizen Band)	3	
Portable - VHF	1	21
<u>Coroner</u>		
Cars and Ambulances	4	4
<u>Sheriff</u>		
Cars	33	
Bus	4	
Portables	11	48
<u>Park and Recreation</u>		
Cars	13	
Trucks	14	
Portables (Citizen Band)	3	
Portables (High Band)	1	31

*Federal Communications Commission calibration Only

RADIO DIVISION

<u>Department</u>	<u>No. of Radio Equipped Vehicles or Portables</u>	<u>Total Radios Maintained</u>
<u>Housing Police</u>		
Cars	6	
Portables	3	9
<u>City College & School District</u>		
Portables	14	
Cars	1	15
<u>Police Chaplains</u>		
Cars	3	3
<u>Police Commission</u>		
Cars	5	5
<u>Fire Commission</u>		
Cars	2	2
<u>Board of Education (SFSD)</u>		
Trucks	10	10
<u>District Attorney</u>		
Car	6	6
City Attorney	1	1
<u>*Federal Bureau of Investigation</u>		
Cars	3	3
TOTAL - Mobile and Portable Radios		<u>2938</u>

*Federal Communications Commission calibration Only

RADIO DIVISION

Base Stations Maintained

Police Department

At Central Radio Station	6 Low band units 3 high band units 5 UHF units 1 microwave terminal
At Bernal Heights Station	2 low band units
At Hall of Justice	2 high band units 1 UHF unit 1 microwave terminal
At Police Stations, Pistol Range and Stables	10 low band units 9 UHF units
At Bank of America	1 UHF unit
At McLaren Park	1 UHF unit

Fire Department

At Central Radio Station	2 low band units 3 high band units 1 microwave terminal
At Central Fire Alarm Station	3 high band units 1 microwave terminal 1 low band unit
At Fire Houses, and Airport	16 low band units

Emergency Service

At Emergency Operating Center	2 low band units
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Water Department

At Central Radio Station	2 low band units 1 UHF unit
At Bernal Heights Station	2 low band units
At Lake Merced	1 low band unit

*Housing Authority

At Central Radio Station	1 UHF unit
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*Federal Communications Commission Calibration only.

RADIO DIVISION

Municipal Railway

At Central Radio Station	2 low band units
At Forest Hill Blockhouse	4 low band units

Health Department

At 101 Grove Street	2 Microwave Terminal
At 101 Grove Street	1 high band unit
At San Francisco Gen. Hospital	1 UHF Paging Xmitter
At San Francisco Gen. Hospital	2 high band units
At Central Radio Station	2 high band units
At Laguna Honda Hospital	2 high band units
At 5033-3rd Street	1 UHF unit
At Central Radio Station	2 Microwave Term. & 10 UHF Base Sta.

Board of Education (SFSD)

At Central Radio Station	1 UHF unit
At Toland Street Warehouse	1 UHF unit

Sheriff

At Hall of Justice County Prison	1 high band unit
San Bruno County Prison	1 high band unit
At City Hall	1 high band unit

Department of Public Works

At Central Radio Station	2 low band units
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Department of Electricity

At Central Radio Station	2 high band units
At Central Fire Alarm	1 high band unit
At Bernal Heights	1 high band unit
At 901 Rankin	1 high band unit

Park and Recreation

At McLaren Lodge	1 high band unit
At Maintenance Yard - Golden Gate Park	2 high band units

TOTAL

122

